CALIFORNIA DEPARTMENT OF HEALTH SERVICES

OFFICE OF BINATIONAL BORDER HEALTH

BORDER HEALTH STATUS REPORT 2002-2003

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EXECUTIVE SUMMARY

It has long been recognized that the health and well-being of communities on both sides of the U.S.-Mexico international boundary are intertwined and inextricably linked. The region along the portion of the border that is the southern terminus of the state of California and the northern limit of Baja California share many health issues and outcomes in common. The Border Health Status Report examines key health status indicators to provide insight into the significant factors influencing the overall health status of this region.

The California Office of Binational Border Health (COBBH) compiled and analyzed data from numerous sources in an effort to define health successes and problems that are specific to the border region and its Hispanic population. The Border Health Status Report also highlights health issues that are binational in nature, affecting residents on both sides of the U.S.-Mexico border. This report seeks to present a more global view of health in the region rather than snapshots of problems or successes that impact one local community over another. Where possible, information is provided on the health status in neighboring Baja California.

Highlights of the Border Health Status Report

Every month millions of people traverse, both legally and illegally, the 140-mile-long border that is flanked by San Diego and Imperial Counties in California, and the municipalities of Tijuana, Tecate, and Mexicali in Baja California. The large volume of people who cross the border presents challenges to public health on both sides in terms of disease transmission, tracking, and treatment.

San Diego County and Imperial County are markedly different in their demographics, socioeconomic status, and other characteristics. San Diego County is a major metropolitan center, the second most populous in California and the 16th largest in the United States. Approximately 22 percent of San Diego County's population is of Mexican origin. Of those residents of Mexican origin, nearly half were born in Mexico. Imperial County is more sparsely populated, the only designated rural county in Southern California with a predominantly Hispanic population, 72 percent, of which 65 percent are of Mexican origin. Nearly half of those residents of Mexican origin were born in Mexico. Imperial County's population is significantly poorer than either San Diego County or California as a whole, with a higher proportion of residents who are under- or unemployed. This is due in part to the county's sizeable population of seasonal and migrant farm workers.

Overall Health Status

Overall health status is a measure of general health, both physical and mental. In general, most Hispanics in the border region and across California do not consider themselves to be in optimal health. In a statewide survey conducted in 2001, 45 percent of the Hispanic respondents in both San Diego and Imperial Counties and 39 percent of the Hispanic respondents statewide considered themselves to be in excellent or very good health. These are significantly lower percentages than in the overall White population in those jurisdictions. Among Mexican-Americans, a higher percentage of Mexican-born respondents reported having fair or poor health compared to U.S.-born respondents of Mexican origin.

Limited or no access to care is a major determent to health. Hispanics, and Mexican-Americans in particular, were the most likely to have no usual source of health care compared to other racial/ethnic groups, according to a 2001 health survey. Mexican-born persons in the border region and throughout California were more likely to report having no usual source of health care, compared to U.S.-born persons of Mexican origin. Fewer Hispanics reported having health insurance compared to the non-Hispanic White population in both Imperial and San Diego Counties and throughout California. A significantly lower percentage of Hispanics in the border region and statewide reported having dental insurance compared to the non-Hispanic White population. Among persons of Mexican origin, those who were born in Mexico were even less likely to have either health or dental insurance than persons who were born in the United States. Improving access to care eliminates these health disparities.

The practice of purchasing medicine in another country may be an indication of how people access health care outside the United States. In 2001, 24.7 percent of Imperial County residents, 6.1 percent of San Diego County residents, and 2.4 percent of all California residents reportedly bought medications in Mexico during the previous 12 months.

Chronic Diseases

Distinct differences emerged in the impact of chronic diseases on the Hispanic population in the border region and throughout California. Breast cancer death rates, for example, were lower in Hispanics in San Diego County (15.0 deaths per 100,000 population) and statewide (15.7), compared to the overall population (26.5 and 24.2, respectively). Too few deaths from breast cancer were reported in Imperial County for reliable statistical analysis. While health outcomes were better for Hispanics than for other racial/ethnic groups, a higher percentage of Hispanic women reported they had never had a mammogram compared to non-Hispanic White women. The lower mammogram rates suggest that obstacles to preventive care exist that warrant further attention.

Hispanic women had poorer health outcomes for cervical cancer. In California, Hispanic women have the highest risk of developing cervical cancer; almost double that of non-Hispanic White women. Cervical cancer death rates were higher among Hispanic women (4.1 per 100,000) than in the overall statewide female population (2.7). The number of women dying in the border counties was relatively small, especially in Imperial County; therefore, rates by ethnicity are not statistically reliable. Fewer Hispanic women reported being screened for cervical cancer than non-Hispanic White women in San Diego County and throughout California, according to a 2001 health survey. In Imperial County, the differences between racial/ethnic groups were not statistically significant. This illustrates the need for further research and interventions to eliminate disparities in care for this high-risk population.

Another chronic health issue of growing concern among the Hispanic population is the incidence of diabetes and associated mortality. In a 2001 survey, a significantly higher proportion of Imperial County residents (7.8 percent) reported that a doctor had diagnosed them with diabetes sometime in the past, compared to San Diego County residents (4.7 percent) and statewide (5.3 percent). There were no significant differences between Hispanic and non-Hispanic White respondents in the percentage that had ever been diagnosed with diabetes. Hispanics, however, had higher death rates due to diabetes compared to the non-Hispanic White population in the border region and statewide. In 2001, Imperial County's diabetes death rate for Hispanics (47.6 per 100,000) was higher than in the non-Hispanic White population (16.0), although the latter rate was based on a small number of deaths. Hispanics also reported significantly higher diabetes death rates in San Diego County (26.5) and statewide (33.1) than in the non-Hispanic White populations (16.1 and 17.0, respectively). Recent increases in the rates of diabetes nationally are attributed to the increase in obesity and lack of physical activity. The increasing death rates among Hispanics due to diabetes suggest the need for additional efforts to improve diagnosis and treatment for this at-risk population group.

Obesity and Overweight

There is evidence that acculturation has an impact on obesity in Mexican-origin residents in the United States. Mexican-origin residents born in the United States tend to be more obese than their Mexican-born counterparts. In the border region, Hispanic women were more likely to be obese compared to non-Hispanic White females. In 2001, 30.7 percent of Hispanic women in Imperial County and 19.3 percent in San Diego County reported being obese, compared to 19.5 percent and 14.1 percent of non-Hispanic White women, respectively. Hispanics in general were more likely to report doing no vigorous or moderate physical activity compared to the non-Hispanic White population. Hispanics in Imperial County (42.1 percent) and statewide (39.9 percent) reported that they did not engage in any vigorous or moderate physical activity at all. These are significantly higher proportions than in San Diego County Hispanics (24.6 percent).

Physical activity rates among residents of Mexican origin varied by country of birth. In both border counties and throughout California, a significantly higher percentage of persons born in Mexico reported doing no moderate or vigorous physical activity compared to Mexican-origin residents born in the United States.

Communicable Diseases

Certain communicable diseases disproportionately impact the Hispanic population in the border region and throughout the state. Large disparities in tuberculosis rates exist among racial/ethnic groups. In 2002, more than 75 percent of tuberculosis cases statewide were in foreign-born persons, with the highest percentage (25.6 percent) in persons born in Mexico. Tuberculosis rates in Hispanics in the border counties were higher than in Hispanics statewide. Mexican-born persons had particularly high rates of tuberculosis: 35 cases per 100,000 population in San Diego County and 58 cases per 100,000 in Imperial County. Imperial County continues to report one of the highest overall rates of tuberculosis in the state (17.3 cases per 100,000 population). The tuberculosis rates in Mexico, and Baja California in particular, are higher than in California and the entire United States. In 2002, Baja California reported the highest tuberculosis rate (48.1 per 100,000 population) in Mexico. This represents a 42 percent increase since 1999, while the overall rate in Mexico decreased 12 percent during the same period to 15.1 per 100,000 population. Several binational programs are currently working to reduce tuberculosis rates in the border region.

The incidence of hepatitis A virus, one of the most frequently reported vaccine-preventable diseases in the United States, has decreased significantly in recent years in the border counties and throughout California. During 1999-2002, hepatitis A rates in Imperial County declined from 21.9 cases to 8.3 cases per 100,000 population, from 9.7 cases to 5.7 cases per 100,000 in San Diego County, and from 10.1 cases to 4.1 cases per 100,000 statewide. This continues a trend of declining hepatitis A rates since 1994 and is likely related to universal recommendations for hepatitis A vaccination for children. Hepatitis A virus disproportionately affects Hispanics in both Imperial and San Diego Counties, and is a health issue in Mexico, a high-endemic country for hepatitis A infection.

The decline in rates of hepatitis A, as well as hepatitis B virus and other more common childhood diseases, is likely associated with improvements in vaccination coverage rates on both sides of the border. Statewide, as well as in the border region, immunization rates have improved in recent years. Mexico, including Baja California, reports excellent vaccination rates among children aged one to four, exceeding Mexico's national goal of vaccination coverage for at least 95 percent of all children in this age group.

Sexually Transmitted Diseases

While the rate of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome is lower in Hispanics in San Diego County than in other racial/ethnic groups, the disease is on the rise in this population group. Imperial County reports very low case rates of HIV/AIDS, but the county is adjacent to areas with high rates, including San Diego County and the municipality of Mexicali in Baja California.

Many disparities exist for Hispanics living with HIV/AIDS in the United States. Hispanics in general are less likely than non-Hispanic Whites to access early prevention services or outpatient care for HIV, resulting in a higher AIDS-related mortality rate. HIV/AIDS is also a significant problem in Mexico. While AIDS cases in Mexico are mostly concentrated in men who have sex with men, heterosexual transmission is increasing. Migration is having an effect on the spread of the disease in rural areas of Mexico, and among women. In an estimated 30 percent of HIV/AIDS cases in Mexico, the disease was reportedly transmitted by someone who had traveled to the United States.

Other sexually transmitted diseases disproportionately affect the Hispanic population in the border region and throughout the state. Hispanics in Imperial and San Diego Counties and throughout California reported significantly higher rates of chlamydia compared to other racial/ethnic groups. In 2002, chlamydia rates in Hispanics were three times higher than in non-Hispanic White residents. Gonorrhea rates were higher among Hispanics in Imperial County and throughout California. During 1999-2002, the rates of primary and secondary syphilis were higher among Hispanics than non-Hispanic Whites in San Diego County and throughout California. No cases of primary or secondary syphilis were reported in Imperial County during that period. The number of cases of congenital syphilis declined in San Diego County from 14 in 1999 to three in 2002. Imperial County reported only three cases in the four-year period. Statewide, the number of congenital syphilis cases ranged from three to nine times higher among Hispanics than in the non-Hispanic White population.

Foodborne and Waterborne Illnesses

Certain foodborne and waterborne illnesses (campylobacteriosis and shigellosis in particular) are more common among Hispanic populations in the border region than in other racial/ethnic groups. In San Diego County, campylobacteriosis rates among Hispanics almost doubled from 15.9 cases per 100,000 residents in 1999 to 29.2 cases per 100,000 residents in 2002. There were no significant changes in the rates in the non-Hispanic White population (11.5) during that time. In the border region and throughout the state, there were fewer cases of cysticercosis, another foodborne disease that is endemic in Mexico. However, hospitalization discharge rates for cysticercosis were significantly higher than the reported case rates of the illness, suggesting under-reporting to local health jurisdictions. Most of the hospitalized cases of cysticercosis reported in San Diego County and

throughout California were in Hispanics. More education about hygiene, as well as proper food and water handling and preparation, is needed to address the increasing problem of these infectious agents.

Environmental Health

Air pollution, especially particulate matter (PM_{10}), is a significant problem in Imperial County and neighboring Mexicali, mostly due to dust from unpaved roads. The city of Calexico, adjacent to the border in Imperial County, has exceeded the federal standards for carbon monoxide. The municipality of Mexicali also exceeded Mexican standards for carbon monoxide and ozone, most of which is generated by motor vehicles. Air quality in San Diego County, and to a lesser extent neighboring Tijuana south of the border, has improved over the past two decades.

These pollutants pose serious health consequences because they can exacerbate asthma and other respiratory illnesses. Carbon monoxide reduces the ability of the blood to carry oxygen, which can be critical for people with heart disease, chronic lung disease, or anemia.

Respiratory Illness

Asthma prevalence has increased dramatically in the United States. Asthma affects a sizeable portion of the population in Imperial County. In 2001, the percentage of people ever diagnosed with asthma (13.1 percent) in Imperial County was not statistically different than in San Diego County (11.8 percent) and California as a whole (12.1 percent). The percentages of Hispanics ever diagnosed with asthma were all significantly lower than the percentages of non-Hispanic White respondents in the border region and throughout the state. Imperial County, however, continues to report the highest asthma hospitalization rates in California. Hispanics in the border region had asthma hospitalization rates similar to non-Hispanic White residents, while asthma hospital rates among Hispanics in California were significantly higher than in the non-Hispanic White population. The fact that asthma hospitalization rates are the same for both Hispanic and non-Hispanic White residents but the prevalence is lower in Hispanics may indicate under diagnosis, perhaps related to cultural issues and poor access to care.

Motor Vehicle Crash Deaths

Imperial County has a high death rate due to motor vehicle crashes, while San Diego County has a lower death rate compared to other communities along the U.S.-Mexico border. In California as a whole, age-adjusted death rates for Hispanics were higher than the rates for the overall population. The difference in death rates for Hispanics and other racial/ethnic groups in San Diego and Imperial Counties was not statistically significant.

Maternal, Child, and Adolescent Health

The health of mothers, infants, and children reflects the current status of a large segment of the population and serves as a predictor of the health of the next generation. Timely, high-quality prenatal care can help prevent problems for mothers and infants. In both Imperial and San Diego Counties, Hispanic women were more likely to start prenatal care late in their pregnancy (third trimester) or not at all compared to the non-Hispanic White population. Teenage pregnancy is another area of concern. Although the teen birth rate for girls aged 15 to 17 declined in the border region and throughout California during 1999-2001, the rate remains high especially among the Hispanic population. The teen birth rate for girls aged 15 to 17 is higher in Hispanics than in non-Hispanic White girls in the same age group in the border region and statewide.

Childhood lead poisoning is a problem particularly among the Hispanic population in San Diego County. The vast majority of cases (88 percent) reported in San Diego County over the past decade were Hispanics. In Imperial County, the number of lead poisoning cases was small. Of the seven cases reported in 1999-2002, six were Hispanic.

Substance Use

In San Diego County, a greater percentage of Hispanic high school and middle school students reported consuming alcoholic beverages in the previous 30 days compared to the overall non-Hispanic population of the same age group. In the border region and throughout the state, a higher percentage of Hispanic adults reported drinking five or more alcoholic beverages at the same occasion in the past month compared to the non-Hispanic White population. The problem of binge drinking, particularly among youth, is exacerbated by the proximity to Mexico, which has a lower legal drinking age (18).

Bioterrorism Preparedness

Improved surveillance for diseases on both sides of the U.S.-Mexico border will ensure greater likelihood of detection of an intentional outbreak caused by a chemical or biological agent. San Diego County is a potential target for a bioterrorist (BT) attack because of its strategic military bases and defense industry. Imperial County's large agricultural sector and its use of crop-dusting planes could make it vulnerable to a BT attack. On the Mexican side, limited laboratory capability in Baja California would prevent early detection for many BT agents. Infectious agents released on either side of the border could spread rapidly throughout California and Baja California.

INTRODUCTION

California's relationship with Mexico is important on many levels. Economically, Mexico leads all nations as California's largest trading partner, representing billions of dollars in trade and thousands of jobs for California residents. In terms of demography and culture, more than one-third of California's residents identify themselves as Latino or Hispanic, and of these more than eight million residents are of Mexican origin. Binational and border-related health issues not only affect the populations adjacent to the U.S.-Mexico border, but also extend far beyond, affecting the health and well being of all Californians.

The high volume of people crossing the U.S.-Mexico border in both directions for work, education, shopping, tourism, social visits, and other reasons creates a close relationship between communities on both sides of the border. At the same time, the high volume of border crossings presents many challenges for public health and the provision of health care services for this highly mobile population, specifically in the areas of disease prevention, surveillance, and control. These challenges serve to emphasize the importance of and need for collaboration between health agencies in California and Mexico.

In recognition of this situation, Assembly Bill 63 (Chapter 765, Ducheny, Division One, Part Three, Health and Safety Code) established a permanent Office of Binational Border Health as part of the California Department of Health Services (CDHS) to "facilitate cooperation between health officials and health professionals in California and Mexico, to reduce the risk of disease in the California border region and in those areas directly affected by border health conditions" (Appendix B).

The California Office of Binational Border Health (COBBH) began operations in January 2000. The Border Health Status Report provides an overview of the border region, including demographics, economy, and health infrastructure, as well as the most recent data available related to key community health indicators. The health indicators are based on the priorities identified in the Healthy Border 2010 Report and other health issues of importance to California. Also, data and information are provided, where possible, on populations residing in Baja California, Mexico.

To fulfill its mission, COBBH collaborates closely with many groups and organizations, including the COBBH Advisory Group; local health departments in San Diego, Imperial, Los Angeles, and Orange Counties; California Environmental Protection Agency (Cal/EPA); Baja California Secretariat of Health; Border Health Offices in Arizona, New Mexico, and Texas; U.S. Department of Health and Human Services (DHHS); U.S. Environmental Protection Agency (EPA); U.S.-Mexico Border Health Commission (USMBHC); U.S.-Mexico Border Health Association (USMBHA); Pan American Health

Organization (PAHO); and Project Concern International. This report highlights the main border-related projects and activities of these partner organizations (Appendix C).

SECTION ONE

California-Baja California Border Region
DEMOGRAPHICS AND SOCIOECONOMIC CHARACTERISTICS

Geography

California's border region is a 140-mile section of the 1,952-mile boundary between the United States and Mexico, made up of the state's southernmost counties on the U.S. side and Baja California on the Mexican side. The La Paz Agreement of 1983 further defined a binationally agreed upon border region as the area within 62 miles (100 km) on either side of the border, an area of approximately 250,000 square miles.[1]

San Diego and Imperial Counties flank California's border region (Figure 1.1). On the west is San Diego County, which enjoys 70 miles of Pacific Ocean coastline and contains the large urban center of San Diego. San Diego's sister city in Mexico is Tijuana. To the east lies rural Imperial County; the Colorado River forms its eastern boundary with Arizona, and south of the border is the city of Mexicali, the capital of Baja California in Mexico.

California's border region is physically diverse. San Diego and Imperial Counties have varied climates and topographies ranging from coast, mountains, desert, forests, and irrigated farmland.

The Baja California border region is made up of five municipalities (equivalent to counties): Mexicali, Tijuana, Ensenada, Tecate, and Playas de Rosarito.

Figure 1.1
California Border Counties and Baja California Municipalities

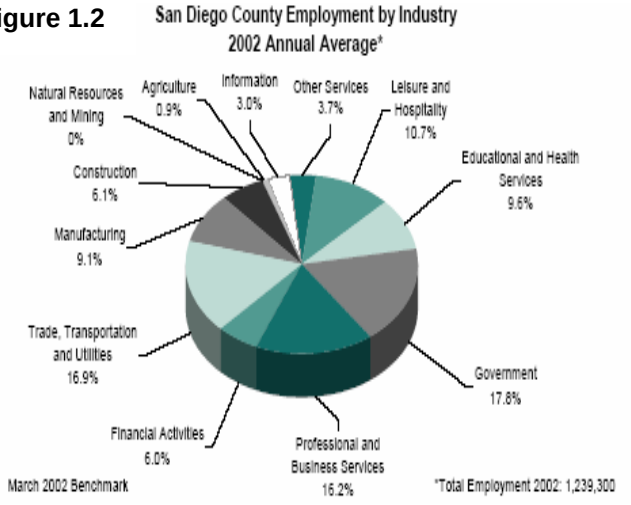
[1] Agreement signed by the United States of America and the United Mexican States on cooperation for the protection and improvement of the environment in the border area. The agreement was signed in La Paz, Baja California, on August 14, 1983, and took effect on February 16, 1984.

Economy

Labor Market Conditions

San Diego County

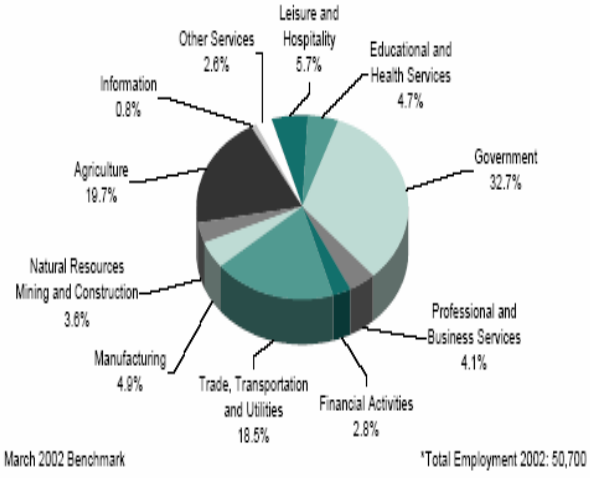
Figure 1.2 San Diego County Employment by Industry 2002 Annual Average*



Source: California Employment Development Department, Labor Market, March 2002, Benchmark

In recent years, local labor market conditions in San Diego County have supported growth in the civilian labor force, as well as growth in total industry employment. In addition to population growth, the labor force in San Diego increased to more than 1.4 million in 2002. From 1998 to 2002, employment grew in most industries, except natural resources and mining, and manufacturing. Government, trade, transportation and utilities, and professional and business services were the largest employers in San Diego County (Figure 1.2). A significant number of military personnel are stationed in San Diego County and contribute to the county's economic strength.

Figure 1.3 Imperial County Employment by Industry 2002 Annual Average*



Source: California Employment Development Department, Labor Market, March 2002, Benchmark

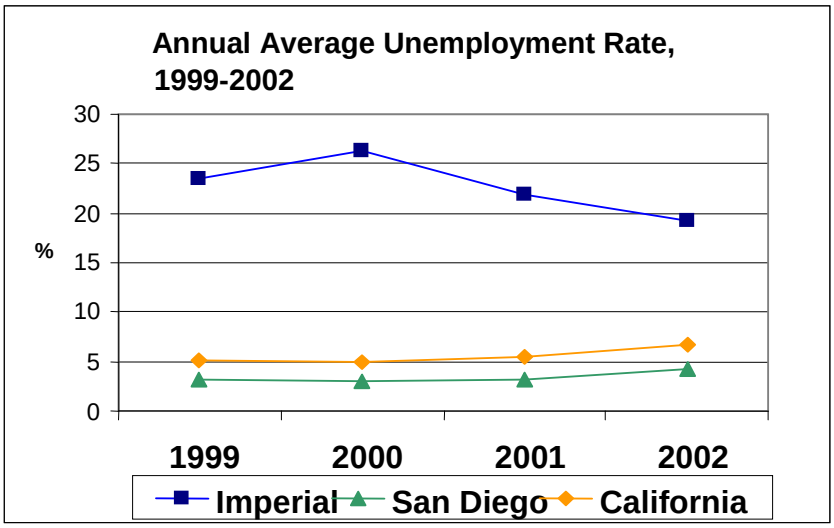
Imperial County

Imperial County's largest employers are government, agriculture, trade, transportation, and utilities. These industries make up almost 71 percent of the County's employment (Figure 1.3). Total industry employment in Imperial County grew 2.0 percent from 1998 to 2002. Government added 2,200 jobs, representing a growth of 15 percent. However, agriculture lost 4,300 jobs during the same period, a decline of 30 percent. In a county known for agriculture, about 20 percent of employment in 2002 was in agriculture, while one in three jobs was in government. This is a noteworthy economic shift since 1998 when these industries held nearly equal shares of employment.

Unemployment

Unemployment statistics include persons who are not working but are able, available, and actively looking for work. The unemployment rate is the number of unemployed as a percentage of the labor force.

Figure 1.4



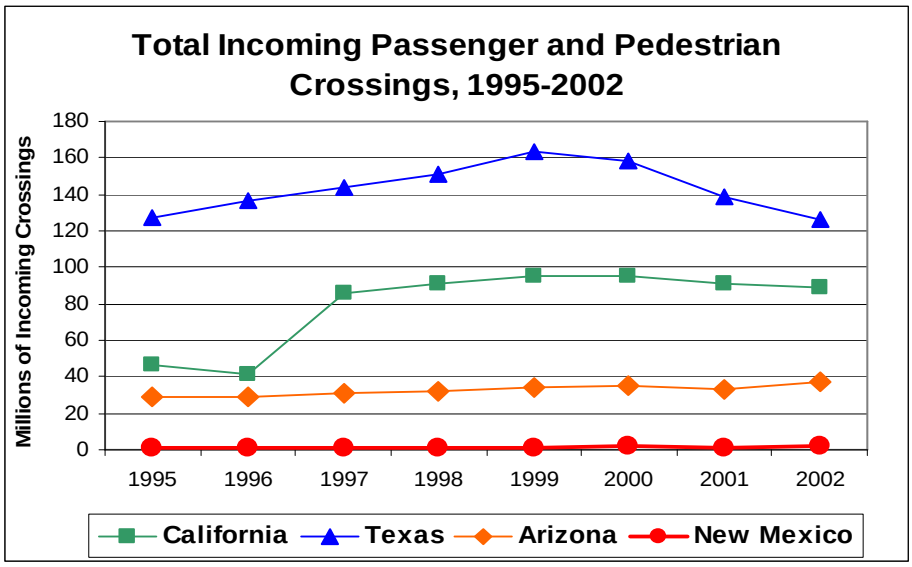
Source: Employment Development Department, Labor Market Information, Available: *http://www.calmis.ca.gov/htmlfile/subject/lftable.htm.*

Imperial County continues to report the highest average annual unemployment rate in California (19.2 percent). Imperial County's unemployment rate is lower than it was in 1999. San Diego County's unemployment rate (4.3 percent) was lower than California levels each year, despite an increase in the rate from 5.2 percent in 1999 to 6.7 percent in 2002 (Figure 1.4). Unemployment rates in Imperial County are variable, associated with the agricultural seasons, while rates for San Diego County are stable throughout the year (California Employment Development Department, Labor Market Information, March 2002).

California-Baja California Border Crossings

The California-Baja California border is one of the busiest international boundaries in the world. The reasons people cross the border are numerous and include employment, health care, social visits, and shopping. The volume of crossings varies by month, day of the week, and time of day. Information about the number of people crossing the border, and their reasons for doing so, is limited and in some cases dated. The information presented here is meant to provide a sense of the magnitude of border crossings and the importance of this activity to the health status of the border regions of both countries. This information serves to demonstrate that rather than divided by international boundaries, when it comes to health issues, the border area should be considered a single, unique region.

Figure 1.5



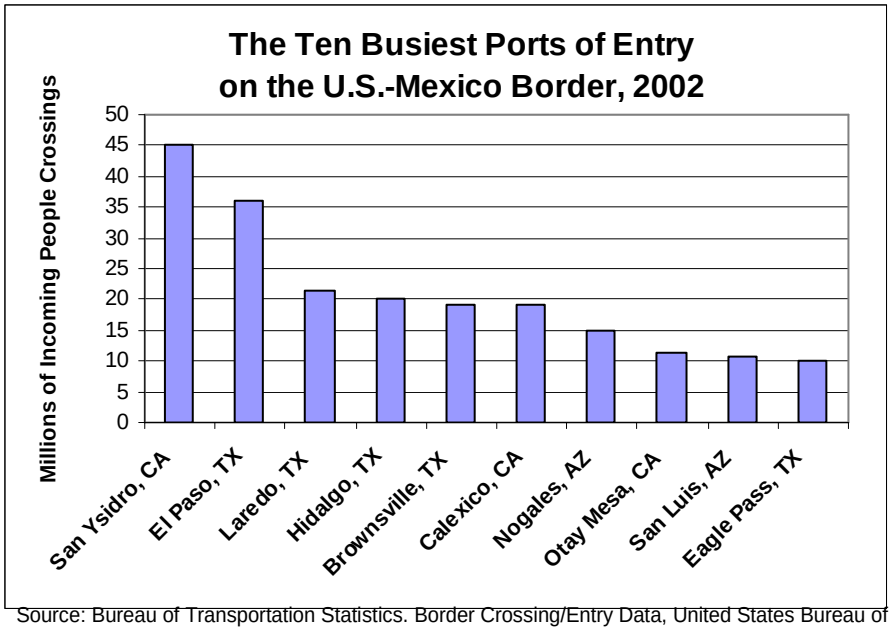
Source: Bureau of Transportation Statistics. Border Crossing/Entry Data, United States Bureau of Transportation, Available: *http://www.bts.gov/help/border_crossing_entry_data.html.*

In 2002, there were 89.6 million northbound documented border crossings from Mexico into California (Figure 1.5). This includes persons crossing by foot, personal vehicle, bus, and train. The data have some limitations; they do not measure the number of unique vehicles and persons that cross into the United States, but rather the total number of crossings. Also, no southbound border crossings are recorded (Bureau of Transportation Statistics, 2004).

San Diego County Border Crossings

In 2002, the total number of northbound border crossings for all ports of entry into San Diego County was 62.7 million (Bureau of Transportation Statistics). These crossings are made by an estimated 400,000 persons, of which about 250,000 are believed to be frequent (more than four times per month) and very frequent (more than 20 times per month) crossers. The frequent and very frequent crossers likely account for about 95 percent of all northbound crossings (Nathanson, 2002). The San Ysidro/Tijuana border port of entry is the busiest land port of entry on the U.S.-Mexico border, with 45.3 million border crossings in 2002 (Figure 1.6).

Figure 1.6



Source: Bureau of Transportation Statistics. Border Crossing/Entry Data, United States Bureau of Transportation, Available: *http://www.bts.gov/help/border_crossing_entry_data.html.*

The most recent published data for San Diego County on the reasons for crossing the border are from 1994 and, therefore, somewhat dated. The reasons vary by time of day. Workers cross the border into San Diego County early in the day (as early as 5 a.m.). A growing number of crossings are by U.S. citizens who live in Mexico and work in the United States. Later in the day, shoppers, students, and casual visitors make up the majority of those who cross the border. Social visits occur more from the U.S. side into Mexico (about 70 percent vs. 30 percent) because of the relative ease of crossing into Mexico compared to the need to obtain documentation for family and friends to cross from Mexico into the United States (San Diego Dialogue, 1994).

Imperial County Border Crossings

In 2002, the total number of northbound border crossings from both ports of entry into Imperial County was 25.9 million (Bureau of Transportation Statistics, 2004). A 1998 report estimated that one million people crossed into Imperial County each month. This crossing volume is partly because a large number of people live in Mexicali in Baja California and cross daily into Imperial County to work. Forty percent (20,000) of all people employed in Imperial County cross the border from Mexico to work. Reasons given by residents of Mexico for crossing into Imperial County include shopping (34 percent), work (22 percent), and social visits (15 percent). Seventy percent of those who cross the border to work in the United States are employed in agriculture (San Diego Dialogue; Centro de Estudios Economicos del Sector Empresarial de Mexicali, A.C., 1998).

Population

A highly mobile, culturally and linguistically diverse population lives on both sides of the U.S.-Mexico border. The close contact between the two countries has created a "blended" border culture, rich in traditions from both sides of the border. Border residents also face unique challenges. Even the act of crossing the border, a necessity for many residents on both sides, can present obstacles to simple everyday tasks, such as social visits, work, shopping, or accessing health care (U.S.-Mexico Border Health Commission, 2003).

The border region also has experienced rapid population growth as a result of several factors, including: a young population with a high birth rate; migration fueled by economic development and social forces such as the reunion of families; and the North American Free Trade Agreement (NAFTA), which led to increased trade and industrial development such as *maquiladoras* (assembly plants) (U.S.-Mexico Border Health Commission, 2003).

Table 1.1

Population of California-Baja California Border Region, 1990-2002

Population	1990	2000	1990-2000 Percent Change	2002
California*	29,760,021	33,871,648	**13.8**	35,000,000
San Diego	2,498,016	2,813,833	**12.6**	2,908,500
Imperial	109,303	142,361	**30.2**	150,200
Baja California**	1,660,855	2,487,367	**49.8**	2,705,614
Tijuana	747,381	1,210,820	**62.0**	1,323,685
Mexicali	601,938	764,602	**27.0**	822,874
Ensenada	259,979	370,730	**42.6**	403,928
Tecate	51,946	77,795	**49.8**	85,518
Playas de Rosarito[a]	**-**	63,420	**-**	69,609

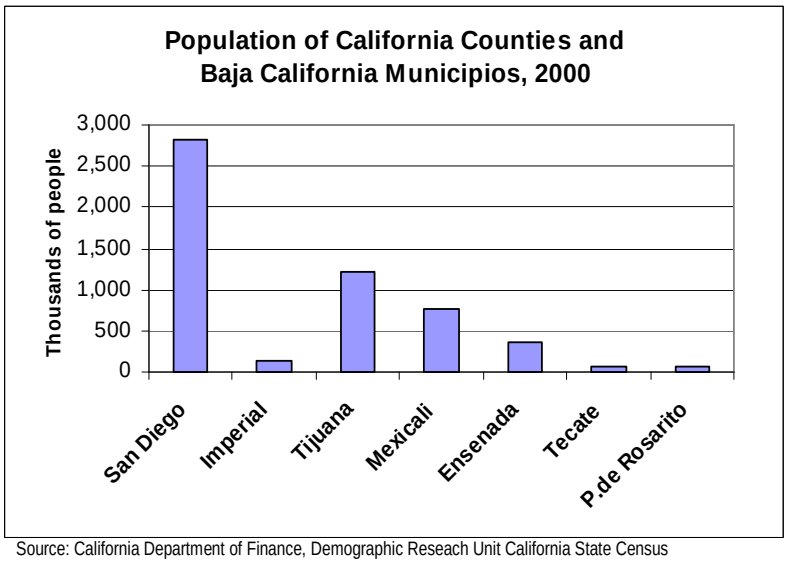
[a] The municipio was established after 1990

*Source: California Department of Finance, Demographic Reseach Unit California State Census Data Center. Available: *http://www.dof.ca.gov/html/Demograp/table1.xls* ; Accessed: Nov. 2003

**Source: Instituto Nacional de Estadistica e Informatica.Tabulados Basicos. Baja California. XII Censo General de Poblacion y Vivienda 2000 . Available: *ttp://www.conapo.gob.mx/micros/proymunloc/index.html* Accessed: Nov. 2003

Table 1.1 and Figure 1.7 show the population for California border counties and Baja California municipalities (California Department of Finance, 2003; Instituto Nacional de Estadística e Informática, 2003). In 2000, 8.7 percent (almost three million people) of California's population resided in border counties. From 1990 to 2000, San Diego County's population increased 12.6 percent, similar to California's overall increase, while Imperial County's population increased more than 30 percent during the same period. An even greater increase occurred in Baja California's population (49.8 percent), most notably in Tijuana (62 percent), during the same period.

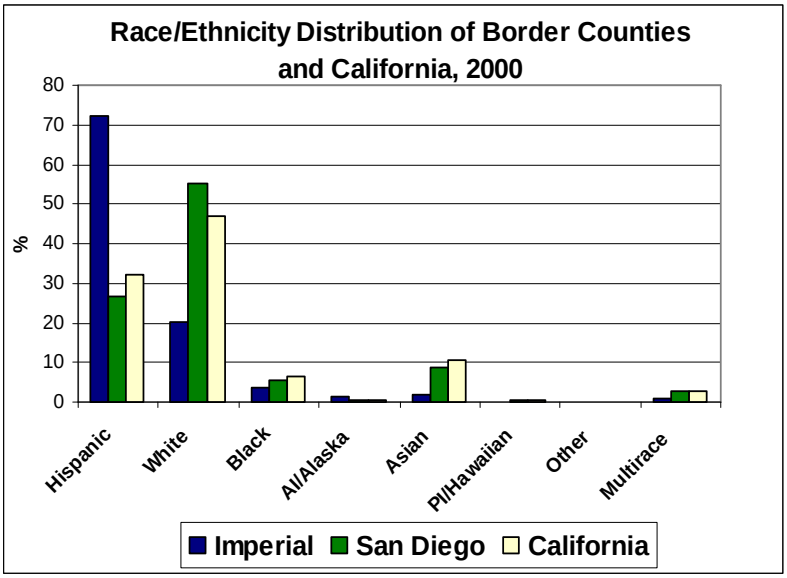
Figure 1.7



Source: California Department of Finance, Demographic Reseach Unit California State Census Data Center. Available: *http://www.dof.ca.gov/html/Demograp/table1.xls* ; Accessed: Nov. 2003, Tabulados Basicos. Baja California. XII Censo General de Poblacion y Vivienda 2000 Instituto Nacional de Estadistica e Informatica. Available: http://www.conapo.gob.mx/micros/proymunloc/index.html Accessed: Nov. 2003

Race/Ethnicity

Figure 1.8



Note: AI/Alaska = American Indian and Alaska Native alone

PI/Hawaiian = Native Hawaiian and other Pacific Islander alone

Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 4 (SF 4). Available: *http://factfinder.census.gov/*

In this report, the terms "Hispanic" and "Latino" are used interchangeably. Figure 1.8 shows important differences between the two California border counties in the distribution of major racial/ethnic groups. According to the U.S. Census 2000, more than half (55 percent) of San Diego County's residents were White, a higher percentage than Imperial County (20 percent) and statewide (46.7 percent). Hispanics make up 72 percent of Imperial County's population, which is the highest percentage in the state, compared to about 27 percent in San Diego County and 32 percent statewide (U.S. Census Bureau, 2000).

Mexican-Origin Population in California

In the 2000 U.S. Census, respondents who identified themselves as "Hispanic" or "Latino" were asked to choose one of several specific subcategories listed in the questionnaire. Those that selected the "Mexican, Mexican American, or Chicano" subcategories are referred to in this report as "Mexican origin." Origin can be viewed as "the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the U.S." (U.S. Census Bureau, 2000).

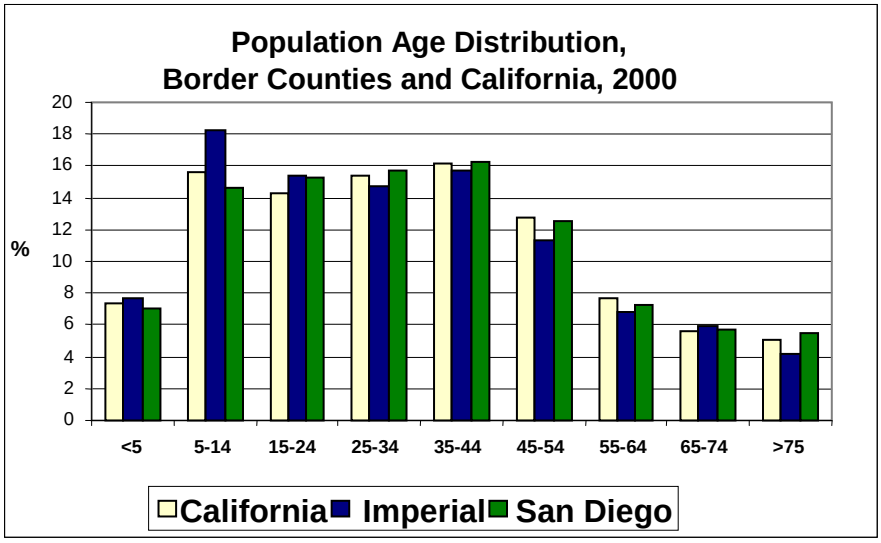
In 2000, almost 8.5 million California residents identified themselves as being of Mexican origin (one in four residents). Of those, nearly four million California residents were born in Mexico (almost one in nine residents). Persons of Mexican origin can be found throughout California (Appendix E). In 2000, the three counties with the largest number of Mexican-origin residents were Los Angeles (three million), Orange (712,496), and San Diego (628,460).

The three counties in California with the largest percentage of Mexican-origin residents were Imperial (65 percent), Tulare (44 percent), and Colusa (41 percent). In 20 counties, Mexicans represented more than 25 percent of the total population (U.S. Census Bureau, 2000).

Age Distribution

Imperial County's population is younger, with 31.4 percent of the population under 18 years of age, compared to San Diego County (25.7 percent) and statewide (27.3 percent). This is likely due to the higher proportion of Hispanics in Imperial County, and the younger age distribution of the Hispanic population (Figure 1.9).

Figure 1.9



Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 1 (SF 1).
Available: http://factfinder.census.gov/

Socioeconomic Status

Economic Status

Research has shown that there is an association between income level and all-cause mortality (Brodish, 2000). Persons with low socioeconomic status have poorer health and poorer access to health care than persons who have higher incomes. (Beckles, 2002).

Table 1.2

Median Family Income by Race/Ethnicity, 1999 (Dollars)

Population	Imperial	San Diego	California
Overall	35,226	53,438	53,025
Hispanic or Latino (of any race)	29,666	33,993	35,980
Mexican	29,878	33,029	35,772
White alone	40,591	59,776	60,216

Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 4 (SF 4). Available: *http://factfinder.census.gov/*

Table 1.2 shows the median family income in San Diego County ($53,438) was similar to that of California overall, while the median family income for Imperial County was much lower ($35,226). For Mexican-origin residents in California and the border counties, the median family income ranged from $30,000 to $36,000, about half of the median income for "White alone" (U.S. Census Bureau, 2000).

Table 1.3

Families with Income Below Poverty Level, 1999

Population	Imperial		San Diego		California	
	Number	percent	Number	percent	Number	percent
Overall	29,681	**22.6**	338,399	**12.4**	4,706,130	**14.2**
Mexican	23,438	**26.1**	140,997	**22.7**	1,902,209	**22.6**

Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 4 (SF 4) Available: *http://factfinder.census.gov/*

In 1999, nearly 23 percent of Imperial County's population reported income below the poverty level, compared to 14.2 percent statewide and 12.4 percent in San Diego County (Table 1.3). A higher percentage of Mexican-origin persons reported income below the poverty level in all three areas (26.1 percent, 22.6 percent, and 22.7 percent, respectively).

English Speaking Ability

Limited ability to speak and write English can be a major barrier to primary and secondary disease prevention. This can lead to diminished comprehension, misinformation, noncompliance, and eventually poorer health outcomes (Calderon, 2004). For example, many children whose parents prefer speaking Spanish are eligible for Medi-Cal but are not enrolled in this government-sponsored health insurance program for the poor. It has been suggested, although not proven, that the reason for not participating in the Medi-Cal program was due to language problems with the enrollment procedure (Falpan, 2000). Language and cultural differences between immigrants and health care personnel may lead to poor communication about screening for disease (Goel, 2003).

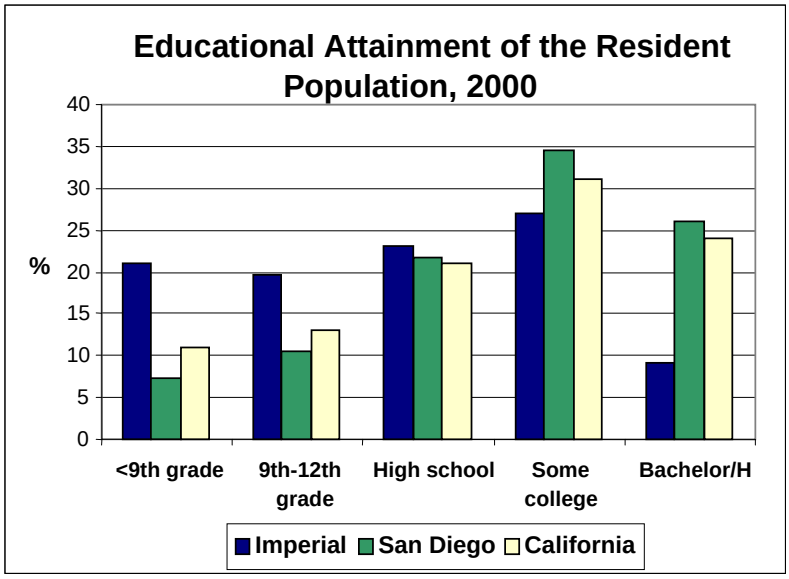
In California, approximately 25 percent of Mexican-origin residents who were born in the United States speak English “not well” or “not at all” (Figure 1.7). For those born in Mexico, the percentage with limited or poor ability to speak English is even higher; from 41 percent to 48 percent in the border counties and throughout California (U.S. Census Bureau, 2000).

Formal Education

A number of studies have found a direct relationship between a higher level of education and overall health (National Institutes of Health, 2003). Parents’ educational levels also affect their children’s health habits and outcomes (Frank, 2003).

In terms of educational attainment, Imperial County residents completed less education overall than those in San Diego County and statewide (Figure 1.10). Figure 1.11 shows that a greater proportion of Mexican-origin residents had not completed a high school education in Imperial County, San Diego County, and statewide, compared to educational attainment of the overall population of the corresponding regions (U.S. Census Bureau, 2000).

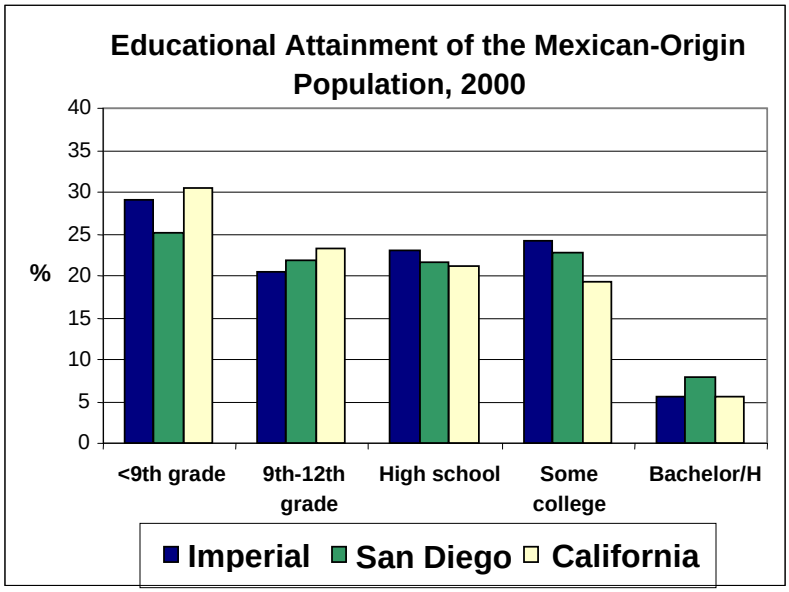
Figure 1.10



Note: **<9th grade** = Less than 9th grade
9th-12th grade = 9th to 12th grade, no diploma
High school = High school graduate (includes equivalency)
Some college = Some college (no degree) and Associate degree
Bachelor/H = Bachelor's degree and Graduate or professional degree

Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 1 (SF 1). Available: http://factfinder.census.gov/

Figure 1.11



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Bachelor/H = Bachelor's degree and Graduate or professional degree

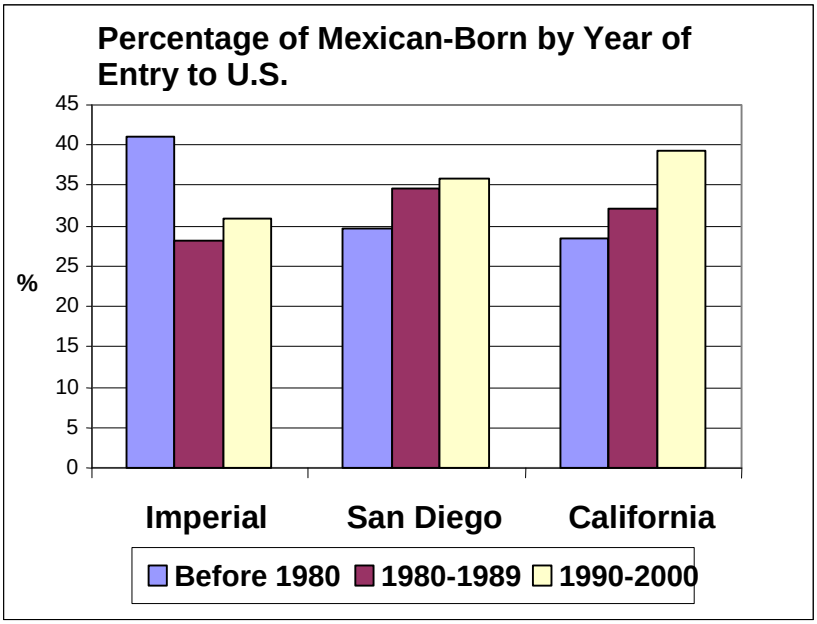
Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 1 (SF 1). Available: http://factfinder.census.gov/

Year of Entry into United States and Citizenship Status of the Mexican-born Population in California

Year of entry into the United States and citizenship status can be used as proxy indicators of acculturation (Figure 1.12). Research has demonstrated that the effect of socioeconomic status (SES) on health indicators is modified by acculturation status. Some health behaviors get worse as immigrants become more acculturated, such as smoking, alcohol use, and illicit drug use. Other health characteristics such as high blood pressure, risk factors for heart disease, and mortality also seem to be affected by both SES and acculturation. At the same time, there are positive factors. Strong family and cultural ties and positive social behaviors have protective effects on immigrants' health (Hajat, 2000).

Citizenship status also affects immigrants' ability to receive some public services. Eligibility for some federal, state, and local services may depend on their immigration status (i.e., U.S. citizens versus permanent residents), among other factors.

Figure 1.12



Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 4 (SF 4). Available: http://factfinder.census.gov/

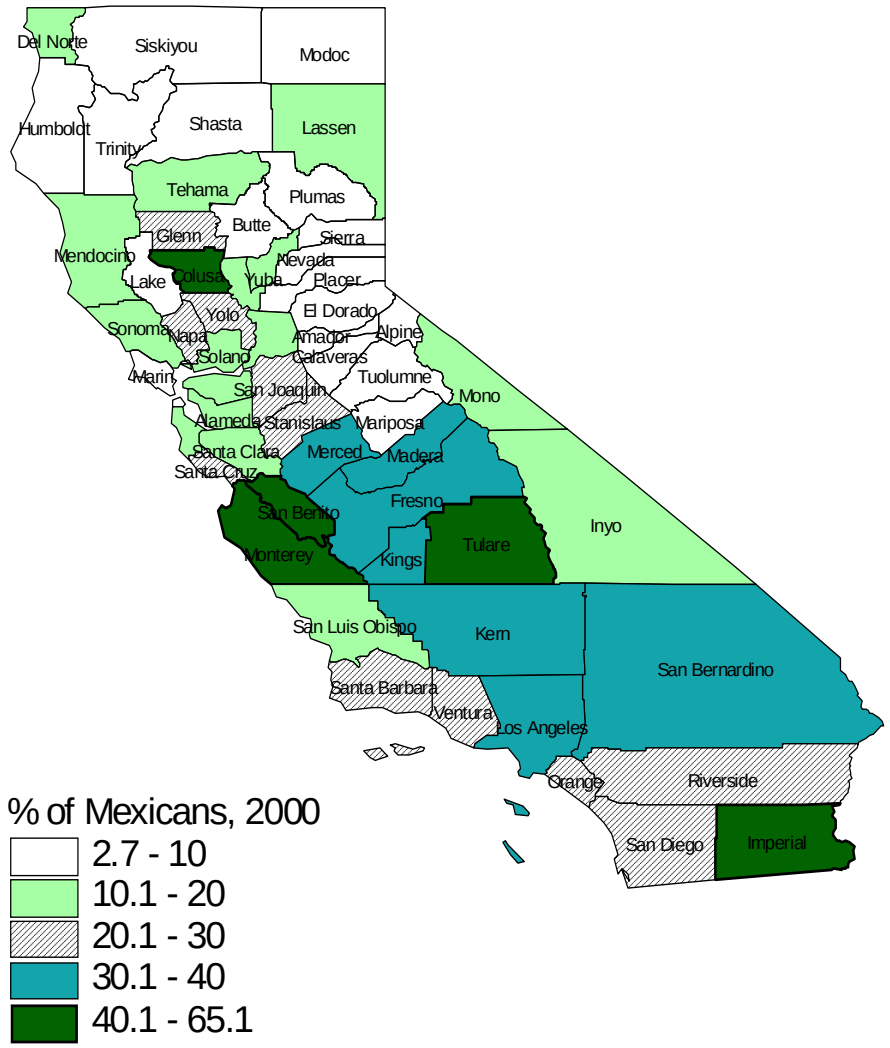
The greatest percentage of Mexican-born residents in San Diego County (36 percent) and California (39 percent) are recent immigrants, entering the United States for the first time in the decade from 1990-2000 (Figure 1.12). In contrast, a greater percentage (41 percent) of Mexican-born residents in Imperial County arrived in the United States before 1980.

In 2000, only 24 percent of Mexican-born residents in California had become naturalized citizens (Figure 1.13). Among recent immigrants, an even smaller proportion (14 percent) had become naturalized citizens (U.S. Census Bureau, 2000).

The estimated undocumented immigrant population in California is 2.2 million (32 percent of total undocumented immigrants in the United States). This corresponds to about 6.5 percent of California's population. The undocumented population in California has increased by almost 50 percent since 1990 (U.S. Citizenship and Immigration Services, 2003).

Figure 1.13

Percentage of Mexican-Origin Population in California Counties, 2000



Source: U.S. Census Bureau. American FactFinder. Census 2000 Summary File 4 (SF 4). Available: *http://factfinder.census.gov*

Special Populations

Agricultural Workers

Agricultural workers are an especially important population group for binational health issues in California and the United States. Many agricultural workers are migrants who were born in Mexico. Although information is limited, it has been reported that agricultural workers' health status is very poor, especially for such a young population (Villarejo et al. 2000). That, together with their very limited access to and use of health services, makes this population one requiring further attention.

Estimating the number of migrant and seasonal agricultural workers and their household members presents many challenges. The figures used in this report are published estimates based on secondary data (Larson, 2000).

Table 1.4

Estimates of Number of Farm Workers* and Household Members, 2000

Imperial County	Farm Workers*	29,312
	Other Household Members	22,850
	Total Farm Workers and Household Members	52,162
San Diego County	Farm Workers	19,719
	Other Household Members	15,371
	Total Farm Workers and Household Members	35,090
California	Farm Workers	938,758
	Other Household Members	731,774
	Total Farm Workers and Household Members	1,670,532

*Migrant and Seasonal Farm Workers

Source: Larson AC (2000), Migrant and Seasonal Farm Worker Enumeration Profiles Study

For this report, a migrant or seasonal farm worker is defined as "an individual whose principal employment (more than 50 percent) is in agriculture on a seasonal basis, who has been so employed in the last 24 months." A migrant farm worker also "establishes for the purposes of such employment a temporary abode." Included are people engaged in field and orchard agriculture, packing and sorting, horticulture, and reforestation. Excluded are those who work with livestock, poultry, and fisheries (Table 1.4) (Larson, 2000).

In 1999-2000, compared to the same period a decade earlier (1989-1990), farm workers in California were more likely to be poor, new to the United States, foreign born (mostly from Mexico), and undocumented (Table 1.5). The percentage of migrants – in particular international and solo migrants – also increased, while the percentage of female farm workers decreased. The median age of farm workers is 28 years (Carroll, 2003).

Table 1.5

Characteristics of Farm Workers in California, 1989-1990 and 1999-2000

Population	1989-1990	1999-2000
Households in poverty	31%*	41%
Newcomers	4%	23%
Female	28%	20%
Foreign born	60%	84%
Undocumented	12%	55%

*1991-1992 data
Source: Carroll D, Gabbard S (2003, May 19), California Versus Other Farm Workers: NAWS in the 1990's, presented at the Aguirre International Changing Faces Conference

Institutionalized population

Compared to San Diego County (0.7 percent) and California (0.4 percent), Imperial County has a very high percentage of its population housed in correctional facilities (6.9 percent or 9,859 people) (U.S. Census Bureau, 2000). This is important because some health conditions are more prevalent in the incarcerated population, such as hepatitis C and other infectious diseases, and, thus, may greatly influence the health statistics of the county.

SECTION TWO

MONITORING THE HEALTH STATUS OF THE CALIFORNIA BORDER REGION

This section describes the overall health status of communities in the California border region and presents data related to access to health care. The remaining sections will focus on other health indicators that specifically target this region.

Healthy People and Healthy Border 2010 Goals and Objectives

In 2000, the U.S. Department of Health and Human Services (DHHS) released the Healthy People 2010 program, a comprehensive prevention agenda with two overarching goals: increase quality and years of healthy life, and eliminate health disparities (DHHS, 2001).

The Healthy Border 2010 program outlines a similar health promotion and disease prevention agenda through the year 2010 for the U.S. communities that border Mexico (U.S.-Mexico Border Health Commission, 2003). Healthy Border 2010 draws on the national health objectives defined in Healthy People 2010, identifying 25 of the most important objectives for the distinct needs and concerns of the border (Appendix D). Healthy Border 2010 aims to develop prevention goals, objectives, and strategies that can be used by the four U.S. border states, local communities, and private-sector partners.

This report uses the Healthy Border 2010 objectives as a framework for presenting the health status of the California border region. Throughout the report, county and state statistics are presented, although for some of the Healthy Border 2010 objectives data is not yet available for the border communities. In addition to using the Healthy Border 2010 objectives, this report focuses on other health issues of importance to the California border region. Because COBBH's charge is to facilitate cooperation with Mexico to improve health in border and binational communities, the data focus on border counties and Hispanic/Latino health measures. Where possible, statistics are provided for the Mexican-origin population in California. For some indicators, data are not available for Imperial County or, if available, must be interpreted with caution due to the county's smaller population and relatively small number of disease reports.

There are many factors that can influence health statistics and these factors can vary among communities. The purpose of this report is not to make comparisons between San Diego County, Imperial County, and California as a whole. Instead, the Healthy People 2010 and Healthy Border 2010 objectives serve as a standard by which to assess the status of the health indicators.

Overall Health Status

What is it?

Overall health status is a measure of general health, including physical and mental health. In this section, health status is measured by a self-assessment survey, which focuses on how people view their own health.

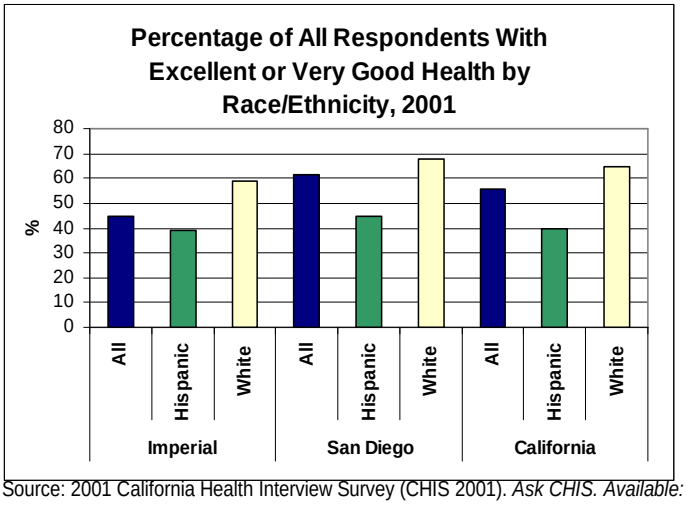
Why is it important?

Tracking health status indicators in different populations can identify subgroups with poor physical or mental health and can help guide policies or interventions to improve their health.

What is the status in the border region?

In the 2001 California Health Interview Survey (CHIS), respondents were asked to classify their overall health status as excellent, very good, good, fair, or poor. In San Diego County, a significantly higher proportion of residents classified their health as either excellent or very good (61.2 percent), compared to those in Imperial County (44.8 percent) and statewide (55.8 percent) (Figure 2.1).

Figure 2.1

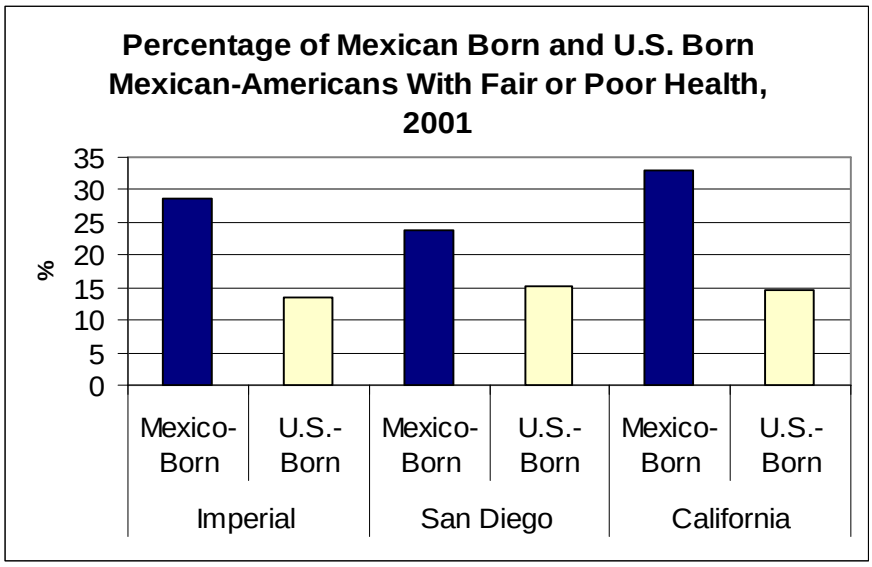


Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS. Available: http://chis.ucla.edu/*

A smaller percentage of Hispanics in San Diego County (45 percent) and California (39.7 percent) considered themselves to be in excellent or very good health, compared to White residents and the overall population. In Imperial County, there was no significant difference between the overall population and Hispanics.

Among Mexican Americans, a higher proportion of Mexico-born residents reported fair or poor health than U.S.-born residents of Mexican origin. The difference was similar in both counties and across the state, with 24 to 33 percent of the Mexico-born residents reporting poor or fair health, compared to 14 to 15 percent of U.S.-born residents of Mexican origin (Figure 2.2).

Figure 2.2



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS. Available: http://chis.ucla.edu/*

What is being done?

The goal of the California Department of Health Services (CDHS) is to improve the overall health of all Californians. The California Legislature established COBBH to coordinate programs and interventions focused on border communities and binational health issues, and to collaborate with Mexico to improve the overall health in the border region.

One effort to improve border health is conducted by the California-Mexico Health Initiative (CMHI), which is made up of representatives from government, academia, the private sector, and community-based organizations of both countries. This collaborative works to improve the health of Mexican immigrants and their families by coordinating and optimizing the availability of health resources for that population through training, research, and health promotion activities. CMHI's efforts have focused on the Mexican states with the highest international mobility and selected California counties with high proportions of immigrant populations. COBBH and CMHI worked together on several activities, including Binational Health Week, which offered health education and promotion activities, a media campaign, and a Binational Public Policy Forum on Migrant Health.

Access to Health Care

What is it?

Access to care is the timely use of personal health services to achieve the best possible outcomes (DHHS, 2001). Access to care can be limited by many factors, including an inability to pay for services, a lack of insurance to cover medical costs, a shortage of health care providers, and no regular source of ongoing health care (Bloom, 1997).

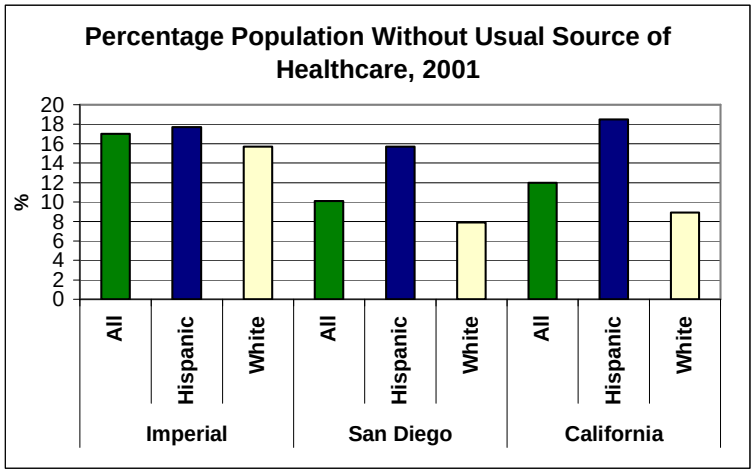
Why is it important?

Improving access to quality health care helps to eliminate health disparities and increases the quality and years of healthy life for all persons. It is also essential to ensure access to preventive services (e.g., diet and nutrition counseling and blood pressure screening) to effectively manage chronic conditions such as diabetes and hypertension and to allow rapid access to emergency care. Having a usual source of care is an important predictor of access to needed health services. This is especially true when it relates to access to a primary care provider. Having a primary care provider improves continuity of care, which is important in attaining the full potential of prevention. Among adults 18 years and older in all racial and ethnic categories in the United States, Hispanics and particularly Mexican Americans are the most likely to lack a usual source of care (24 percent and 28 percent, respectively), compared to 15 percent of African Americans and 13 percent of non-Hispanic Whites (DHHS, 2001). Migrant populations and some border communities may suffer from a combination of barriers to access to care, including their legal immigration status, poverty, language, cultural issues, and poverty.

What is the status in the border region?

In 2001, 17.0 percent of Imperial County residents of all ages did not have a usual place to go when sick or in need of health advice (Figure 2.3). This is significantly higher than in San Diego County (10.1 percent) and statewide (12.0 percent). In San Diego County and California, a significantly higher percentage of Hispanic residents (15.7 percent

Figure 2.3

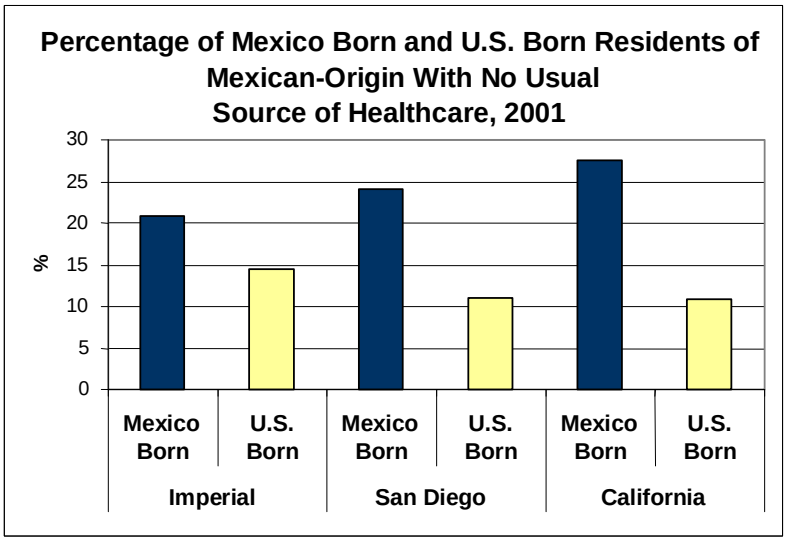


Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

and 18.5 percent, respectively) did not have a usual source of care compared to non-Hispanic Whites, 7.9 percent and 8.9 percent, respectively (Figure 2.3) (California Health Interview Survey, 2001).

Among the Mexican-origin population, access to usual source of care varied by their country of birth, with Mexican-born persons more likely to report no usual source of health care. Statewide, as well as in Imperial and San Diego Counties, the percentages of Mexican-born persons with no usual source of care – 27.5 percent, 20.9 percent, and 24 percent, respectively – were higher than for U.S.-born persons (10.8 percent, 14.4 percent and 11 percent, respectively) (Figure 2.4) (California Health Interview Survey, 2001).

Figure 2.4



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS Available: http://chis.ucla.edu/*

Physician Ratio

The Healthy Border 2010 objective is to increase the proportion of persons with access to primary care providers. One indicator of access to care is the ratio of residents per physician. Imperial County has a higher ratio of persons per physician (1,186:1) than neighboring San Diego County (359:1), and statewide (400:1), which may negatively influence access to health care (CDHS, 2002).

Health Insurance

A significant measure of access to care (including preventive, primary, and tertiary care) is the proportion of people who have health insurance. Substantial disparities remain in health insurance coverage for certain populations in the United States, including Hispanic persons (especially Mexican Americans) who have one of the highest rates of being uninsured (40 percent) in the country. The Healthy People 2010 objective calls for everyone to have health insurance (DHHS, 2001).

Table 2.1

Percentage of Population Currently Insured, 2001

Population		%	(95% CI)*
Imperial	**All**	**82.7**	(14.3 - 19.7)
	Latino	**77.6**	(18.6 - 26.2)
	Whites	**93.9**	(90.3 - 97.5)
San Diego	**All**	**86.2**	(8.8 - 11.4)
	Latino	**66.7**	(28.7 - 38.0)
	Whites	**93.0**	(5.6 - 8.4)
California	**All**	**86.0**	(11.7 - 12.4)
	Latino	**72.4**	(26.6 - 28.6)
	Whites	**92.4**	(7.2 - 7.9)
HP 2010 Target		**100**	

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*
* CI=Confidence Interval, a measure of statistical uncertainty

In 2001, 82.7 percent of Imperial County residents reported having health insurance at the time they were interviewed, which is significantly lower than statewide (86.0 percent) and San Diego County residents (86.2 percent) (Table 2.1).

Throughout California, as well as in Imperial and San Diego Counties, the percentages of Hispanic residents with current health insurance (77.6 percent, 66.7 percent, and 72.4 percent, respectively) were significantly lower than the corresponding percentages in non-Hispanic White residents (93.9 percent, 93.0 percent, and 92.4 percent, respectively). Among Hispanics, a higher percentage of those residing in Imperial County had insurance compared to those residing in San Diego County or statewide. Overall, an estimated 2.5 million Hispanics in California lack health insurance, of which 580,000 are in San Diego County and 19,000 are in Imperial County (California Health Interview Survey, 2001).

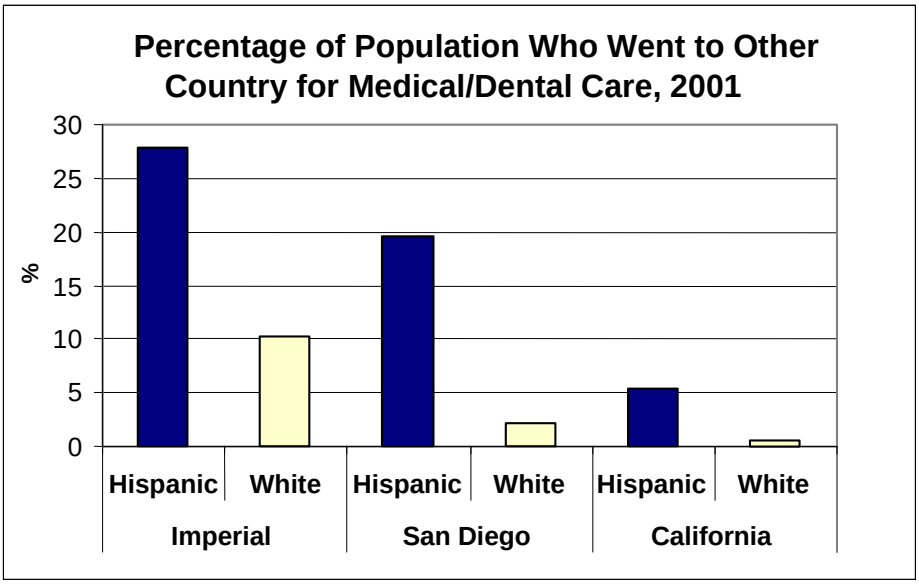
Among the Mexican-origin population, the percentage with health insurance varied by country of birth. In California, 41.6 percent of Mexican-born residents had no health insurance compared to 14.9 percent of U.S.- born residents of Mexican origin. There was also a large difference in San Diego County, with 45.1 percent of the Mexican-born and 25.3 percent of U.S.-born uninsured.
In Imperial County, the difference was not as great but still significant, with 27.6 of Mexican-born residents without health insurance, compared to 17.8 percent of the U.S.-born residents of Mexican origin (California Health Interview Survey, 2001).

Access to Health Care Outside the United States

The United States and Mexico are neighboring countries with very different health care systems. Some California residents, particularly Mexican Americans and those living in the border region, prefer to travel to Mexico for health care services. One reason is cost (Villarejo, 2000), but cultural factors are also important, such as the greater availability of Spanish-speaking providers in Mexico (U.S.-Mexico Border Health Commission, 2003).

In a 2001 survey, 27.6 percent of Imperial County residents reported that they had sought medical or dental care in another country within the previous 12 months, compared to 5.8 percent of San Diego County residents and 2.1 percent of all Californians. Hispanics, by far, represented the greatest percentage of persons who sought medical or dental care in another country (Figure 2.5). Among the residents in Imperial County, San Diego County, and statewide who went to another country for health care, most reported going to Mexico (98.6 percent, 86.9 percent, and 73.7 percent, respectively). That corresponds to an estimated 17,000, 71,000, and 282,000 residents, respectively, who sought medical care in Mexico (California Health Interview Survey, 2001).

Figure 2.5



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

What is being done?

The U.S.-Mexico Border Health Commission (USMBHC) collaborated with the California Mexico Health Initiative (CMHI) on Binational Health Week and the opening of two health stations at Mexican consulates in San Diego and Los Angeles as part of the *Ventanilla de Salud* Project. This project is a health information station that is based in the Mexican Consulate in San Diego. Through this program, health educators and case managers inform the migrant community and members of other underprivileged Hispanic populations about various issues such as health risks, disease prevention, and available medical services.

SECTION THREE

CHRONIC DISEASE

Heart disease, cancer, diabetes, and stroke are major causes of death in the United States. These and other chronic conditions, such as asthma, arthritis, and depression, are leading causes of disability and diminished quality of life.

Cancer

Breast Cancer

What is it?

Breast cancer is the most common cancer among women in California and the United States, regardless of race or ethnicity.

Why is it important?

Incidence of breast cancer in California has remained mostly unchanged for the last decade. For each racial/ethnic group in California, breast cancer incidence increases with socioeconomic status. This is contrary to the trend exhibited by most cancers and chronic diseases. Breast cancer is the second leading cause of death in women in California and the United States. However, on a positive note, breast cancer mortality in California has declined from 1988 levels for most racial/ethnic groups, including Latinas. This may be due to an increase in early diagnosis and better treatment (American Cancer Society, 2003).

Table 3.1

Female Breast Cancer Mortality Rates, 1999-2001

		1999			2000			2001		
Population		**Deaths**	**Rate***	**(95%CI)****	**Deaths**	**Rate***	**(95%CI)***	**Deaths**	**Rate***	**(95%CI)***
Imperial	**All**	17	**27.7**	(14.5 - 40.9)	17	**27.0**	(14.1-39.8)	9	**13.6**	(4.7 - 22.5)
	Hispanic	8	**21.7**	(6.5 - 36.9)	12	**29.6**	(12.7-46.4)	5	**11.7**	(1.4 - 22.0)
San Diego	**All**	344	**25.9**	(23.1 - 28.6)	415	**30.0**	(27.1-32.9)	373	**26.5**	(23.7 - 29.2)
	Hispanic	26	**13.4**	(8.1 - 18.7)	38	**18.8**	(12.6-24.9)	33	**15.0**	(9.8 - 20.3)
California	**All**	4,039	**24.5**	(23.8 - 25.3)	4,223	**25.0**	(24.3-25.8)	4,185	**24.2**	(23.5 - 24.9)
	Hispanic	438	**15.1**	(13.6 - 16.5)	438	**14.3**	(12.9-15.6)	504	**15.7**	(14.3 - 17.2)
Healthy People 2010 Target			**22.3**			**22.3**			**22.3**	

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: http://www.applications.dhs.ca.gov/vsq/default.asp

What is the status in the border region?

The Healthy Border 2010 objective is to reduce the breast cancer rate by 20 percent. From 1999 to 2001, there were no significant changes in age-adjusted breast cancer death rates for women in California or in the border counties. Hispanic women in San Diego County and throughout California had significantly lower breast cancer death rates compared to the overall county and state female populations (CDHS, 2002). Those rates were below the Healthy People 2010 target of 22.3 deaths per 100,000 population. Breast cancer death rates for Imperial Country were based on a small number of deaths and so should be interpreted with caution (Table 3.1).

What is being done?

Survival from breast cancer can be improved substantially if the tumor is diagnosed at an early stage. In California, the percentage of cancers diagnosed early has been increasing since 1988 to about 68 percent in 1999. However, significant disparities remain among some minority groups. In 1999, the percentage of early diagnosis among Hispanic women in San Diego County (59 percent) was significantly lower than for non-Hispanic White females in that county (70 percent). This was similar to California as a whole (American Cancer Society, 2003).

Mammography is the most effective method for detecting early malignancies in the breast. In California, the percentage of women of screening age who had a mammogram increased during the past decade. However, some population groups, such as low-income Hispanic women who have no insurance or usual source of care and have limited English proficiency, were less likely to obtain breast screenings. In 2001, the percentage of women aged 40 and older who were screened in the previous two years in San Diego County (74.8 percent) and Imperial County (76.1 percent) was not significantly different from California's overall rate (75.5 percent). All exceeded the Healthy People 2010 target of 70 percent (Ponce, 2003). In San Diego County and statewide a significantly higher percentage of Hispanic women never had a mammogram (19.2 percent and 17.7 percent, respectively) compared to non-Hispanic White women (8.5 percent and 8.1 percent, respectively), (California Health Interview Survey, 2001).

Cervical Cancer

What is it?

Cervical cancer is the tenth most common cancer among females in the United States (DHHS, 2001). Cervical cancer rates are higher among women aged 40 and older; however, the precursor lesion to cervical cancer most often occurs in young women (Centers for Disease Control and Prevention, 2004). Infection with human papilloma virus (genital warts), a sexually transmitted disease, is the single greatest risk factor for cervical cancer (CDHS, 2004).

Why is it important?

Cervical cancer accounts for about 1.7 percent of cancer deaths among females (DHHS, 2001). In 2004, more than 1,600 women in California will be diagnosed with cervical cancer. Of all racial/ethnic groups in California, Hispanic women have the highest risk of developing cervical cancer, almost double that of non-Hispanic White women (American Cancer Society, 2003).

Cervical Cancer Mortality

In California, Hispanic women had higher mortality rates (4.1 per 100,000) than the overall female population (2.7 deaths per 100,000 population) in 1999-2001 (Table 3.2), and higher than the Healthy People 2010 objective (2.0 per 100,000).

What is the status in the border region?

Overall, the age-adjusted cervical cancer death rates were similar statewide and in the two border counties. Cervical cancer age-adjusted death rates did not change significantly in any of the three areas between 1999 and 2001.

Table 3.2

Cervical Cancer Mortality Rates, 1999-2001

Population		1999			2000			2001		
		Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)
Imperial	**All**	3	**5.0**	(1.0 - 14.6)	4	**6.6**	(1.8 - 16.9)	4	**6.2**	(1.7 - 15.9)
	Hispanic	2	**6.2**	(0.8 - 22.4)	2	**5.2**	(0.6 - 18.8)	1	**2.8**	(0.1 - 15.6)
San Diego	**All**	36	**2.8**	(2.0 - 3.9)	34	**2.6**	(1.8 - 3.6)	46	**3.3**	(2.4 - 4.4)
	Hispanic	12	**5.1**	(2.5 - 9.1)	6	**2.6**	(1.0 - 5.7)	11	**4.5**	(2.2 - 8.3)
California	**All**	460	**2.8**	(2.6 - 3.1)	472	**2.8**	(2.6 - 3.1)	465	**2.7**	(2.5 - 3.0)
	Hispanic	117	**3.6**	(3.0 - 4.3)	134	**4.1**	(3.3 - 4.8)	141	**4.1**	(3.4 - 4.7)
Healthy People 2010 Target			**2.0**			**2.0**			**2.0**	

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics.

Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

The number of women dying of cervical cancer in border counties, especially in Imperial County, is relatively small, and for this reason the calculated year-to-year rates may not be statistically reliable. In Imperial County, three to four women per year died of cervical cancer during 1999-2001 (Table 3.2). The Healthy Border 2010 objective is to reduce the cervical cancer death rate by 30 percent.

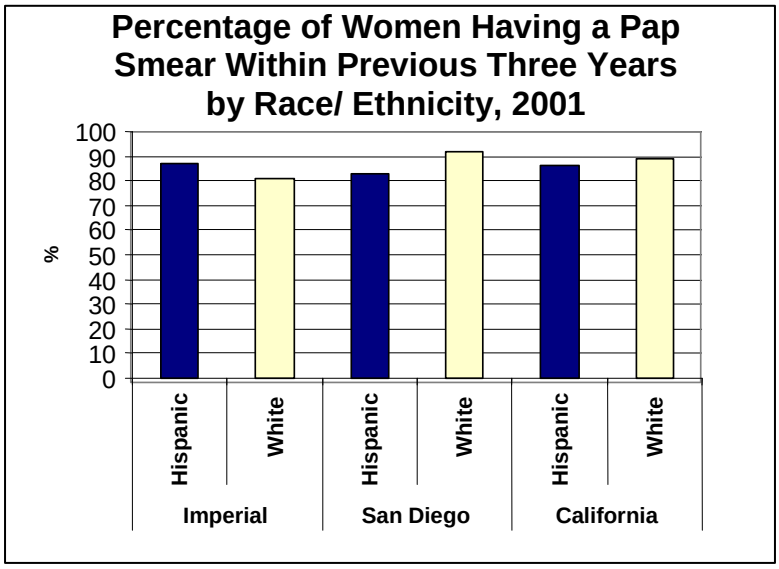
What is being done?

Regular screening for cervical cancer, such as Pap smear tests to detect early stages of cancer, followed up with appropriate treatment, can greatly increase survival rates. Cervical cancer, caught early, is nearly 100 percent curable (California Department of Health Services, 2004).

In 2001, the percentage of Hispanic women aged 18 and older (who had not had a hysterectomy) who had a Pap smear test in the previous three years in San Diego County (83.2 percent) and statewide (86.4 percent) was significantly lower than for non-Hispanic White women (91.9 percent and 89.1 percent, respectively) (Figure 3.1) (California Health Interview Survey, 2001).

In Imperial County, the percentage of Hispanic women (87.2 percent) and non-Hispanic White women (80.8 percent) who had a Pap smear screening in the previous three years was not statistically different. Both border counties and California as a whole fell below the Healthy People 2010 objective of 90 percent of all women obtaining Pap smear test screenings at least once every three years.

Figure 3.1



Note: Women who had a hysterectomy were not included in this analysis.
Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

Diabetes

What is it?

Diabetes mellitus is a disease in which the body has difficulty metabolizing sugar (glucose). This causes an elevation of glucose in the blood and aberrations in the functioning of or damage to many organ systems, including the eyes, nerves, blood vessels, heart, and kidneys. The health problems caused by diabetes can progress without symptoms for many years, until the organ systems have suffered significant damage. This is why many call diabetes *the silent killer* (CDHS, California Diabetes Control Program, 2003).

Certain racial/ethnic groups have rates of diabetes that are higher than the national average. These include Hispanic/Latinos, African Americans, Native Americans, and Asian/Pacific Islanders. Hispanics of Mexican heritage have higher rates of diabetes than other Hispanics. Recent increases in the rates of diabetes nationally are attributed to the increase in obesity and lack of physical activity (Diamant, 2003).

Why is it important?

In 2003, there were more than two million Californians with diabetes, with direct and indirect costs exceeding $100 billion per year (CDHS, California Diabetes Control Program, 2003). In 1999, diabetes was the sixth leading cause of death in the United States (Cox, 2002).

Diabetes-Related Mortality

Table 3.3

Diabetes-Related Mortality Rates, 1999-2001

Population		1999			2000			2001		
		Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)
Imperial	All	24	**20.8**	(12.5 - 29.2)	26	**21.6**	(13.3 - 29.9)	39	**31.4**	(21.6 - 41.3)
	Hispanic	13	**22.2**	(10.0 - 34.5)	17	**26.0**	(13.5 - 38.6)	30	**47.6**	(30.5 - 64.6)
	White	9	**20.9**	(9.6 - 39.7)	8	**16.9**	(7.3 - 33.3)	7	**16.0**	(6.4 - 33.0)
San Diego	All	377	**15.3**	(13.8 - 16.9)	481	**19.0**	(17.3 - 20.7)	491	**18.9**	(17.2 - 20.5)
	Hispanic	71	**23.9**	(18.2 - 29.6)	106	**32.2**	(25.9 - 38.6)	84	**26.5**	(20.7 - 32.3)
	White	229	**12.1**	(10.5 - 13.7)	297	**15.2**	(13.4 - 16.9)	327	**16.1**	(14.4 - 17.9)
California	All	6,004	**20.5**	(20.0 - 21.1)	6,203	**20.6**	(20.1 - 21.2)	6,457	**20.9**	(20.4 - 21.5)
	Hispanic	1,406	**31.8**	(30.1 - 33.5)	1,447	**31.1**	(29.4 - 32.7)	1,601	**33.1**	(31.4 - 34.7)
	White	3,331	**16.4**	(15.9 - 17.0)	3,507	**17.0**	(16.4 - 17.5)	3,574	**17.0**	(16.5 - 17.6)

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

** CI = Confidence Interval, a measure of statistical uncertainty.

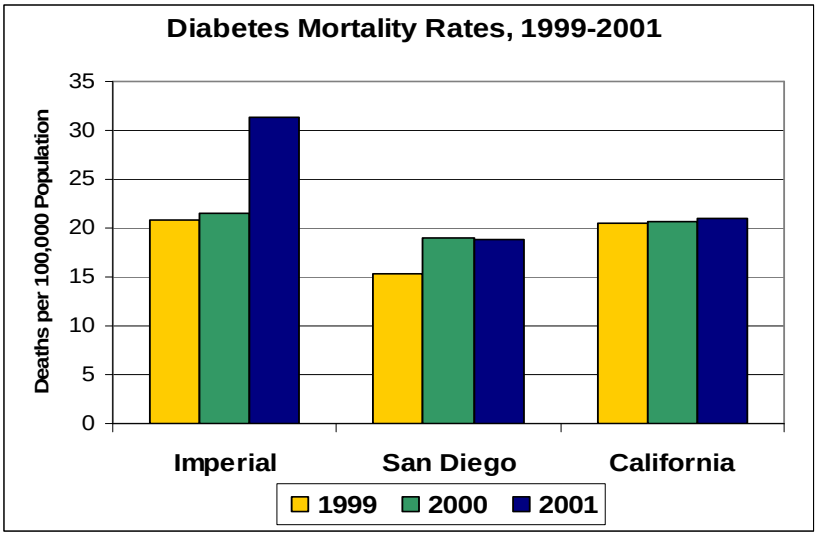
Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

What is the status in the border region?

In 2001, the overall diabetes mortality rate in Imperial County (31.4 per 100,000 population) was significantly higher than in San Diego County (18.9 per 100,000) and statewide (20.9 per 100,000). There were too few diabetes-related deaths in Imperial County to calculate reliable rates for 1999 and 2000. However, the number of diabetes-related deaths in Imperial County increased from 24 in 1999 to 39 in 2001. In San Diego County, diabetes mortality rates significantly increased from 15.3 per 100,000 population in 1999 to 18.9 per 100,000 in 2001, while statewide rates remained stable during the same period (Table 3.3, Figure 3.2). The Healthy Border 2010 objective is to reduce the diabetes death rate by ten percent and diabetes-related hospital admissions by 25 percent.

The data in this report include only deaths with diabetes as the underlying cause. The Healthy People 2010 objective for diabetes mortality is based on any mention of diabetes on the death certificate, whether as an underlying or a multiple cause of death. The Healthy People 2010 target is 45 deaths per 100,000 population. Multiple cause of death information is not yet available for California.

Figure 3.2

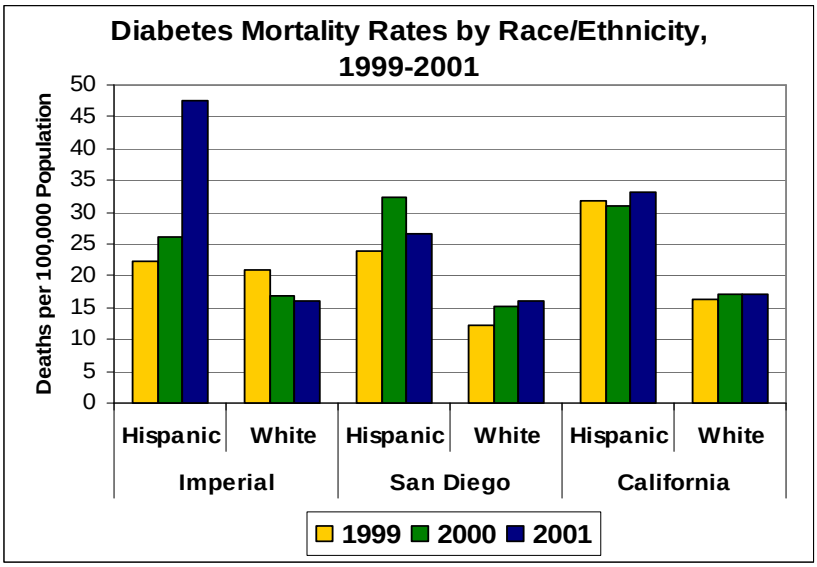


Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

In 2001, Hispanics in San Diego County and statewide had significantly higher diabetes mortality rates (26.5 and 33.1 per 100,000, respectively) than non-Hispanic White residents (16.1 and 17.0 per 100,000, respectively) in the corresponding regions. In Imperial County, the diabetes mortality rate for Hispanics (47.6) was much higher than in non-Hispanic Whites (16.0), although the latter rate was based on a small number of deaths (Figure 3.3).

Figure 3.3



Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Diabetes Prevalence

In 2001, 7.8 percent of Imperial County residents (teens and adults) reported that they had been diagnosed with diabetes some time in the past. That percentage was significantly higher than in San Diego County (4.7 percent) and statewide (5.3 percent) (Table 3.4). In California and both border counties, no significant differences were found between Hispanics and non-Hispanic Whites in the percentage of those that had ever been diagnosed with diabetes (California Heath Interview Survey, 2001).

Table 3.4

Percentage of Population Ever Diagnosed with Diabetes, 2001

Population		percent	(95 percent CI)*	Estimated Number
Imperial	**All**	**7.8**	(5.7 - 9.8)	8,000
	Hispanic	**7.9**	(5.2 -10.7)	5,000
	White	**6.1**	(3.2 - 9.0)	2,000
San Diego	**All**	**4.7**	(3.9 - 5.5)	104,000
	Hispanic	**4.5**	(2.6 - 6.5)	19,000
	White	**4.4**	(3.5 - 5.3)	61,000
California	**All**	**5.3**	(5.1 - 5.5)	1,418,000
	Hispanic	**5.1**	(4.6 - 5.6)	341,000
	White	**5.1**	(4.8 - 5.4)	744,000

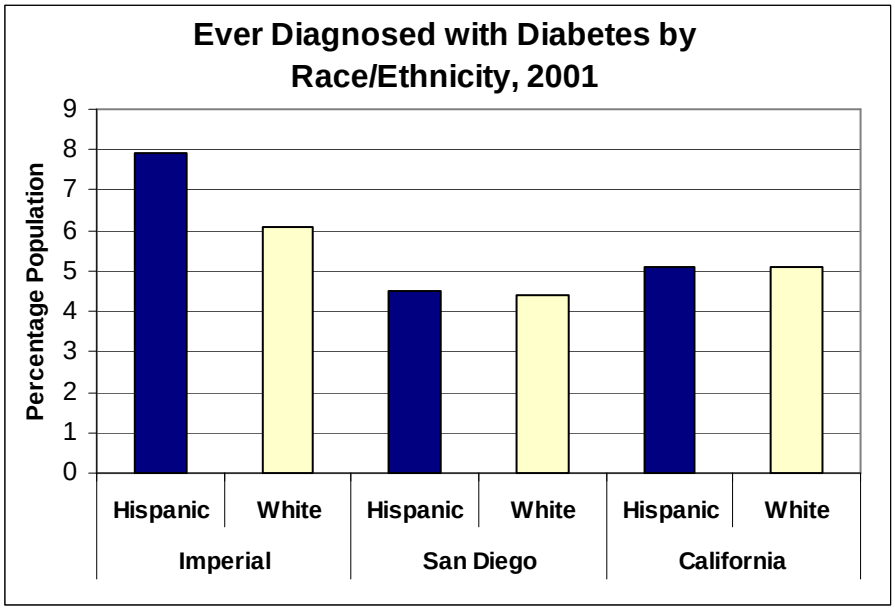
Note: Teens and adults were asked: "Other than during pregnancy, has a doctor ever told you that you have diabetes or sugar diabetes?"

* CI = Confidence Interval, a measure of statistical uncertainty

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

The Healthy People 2010 national objective is 25 clinically diagnosed cases of diabetes per 1,000 population (2.5 percent). The percentage of individuals ever diagnosed with diabetes in both border counties and throughout California exceed this objective (Figure 3.4). In 2001, the estimated number of people in Imperial County with a diagnosis of diabetes was 8,000, of which 62 percent (4,960) were Hispanic. In San Diego County, an estimated 104,000 people were diagnosed with diabetes, of which 18 percent (18,720) were Hispanic (DHHS, 2001).

Figure 3.4



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

SECTION FOUR

ENVIRONMENTAL HEALTH

Environmental factors play a central role in human development, health, and disease. Human exposures to hazardous agents in the air, water, soil, food, and to physical hazards in the environment are major contributors to illness, disability, and death worldwide (DHHS, 2001).

The U.S.-Mexico border is one of the most dynamic regions in the world. The area has experienced rapid growth and an increasingly high volume of trade, especially since the signing of the North American Free Trade Agreement (NAFTA). These circumstances have created a series of environmental challenges and concerns for the border, including poor air quality, inadequate water and sewage treatment, improper management of pesticides, and hazardous wastes (Lampell, 2003). As a consequence of these exposures, border residents – especially children and the elderly – have an increased health risk (U.S. Environmental Protection Agency, 2002).

Air Quality

What is it?

Air pollution is a widespread public health and environmental health problem. Poor air quality contributes to a variety of health problems including respiratory illness, cardiovascular disease, cancer, and premature death. Asthma can be triggered or worsened by exposure to ozone, particulate matter, and tobacco smoke in the air. In addition to the detrimental impact on health, air pollution reduces visibility, damages crops and buildings, and deposits pollutants on the soil and in bodies of water where they can affect the chemistry of the water and the organisms living there.

U.S. and California environmental agencies regularly monitor a set of criteria pollutants as indicators of air quality. These include ozone, particulate matter (PM_{10}), carbon monoxide (CO), sulfur dioxide, and nitrogen dioxide. The California Air Resources Board operates a statewide network of monitors to measure airborne concentrations for those pollutants. As part of an agreement between the U.S. and Mexican governments, monitoring sites are also located in Baja California, Mexico (Planning and Technical Support Division, 2003).

There are state and federal standards for each of the criteria pollutants. Those standards are based on the concentration above which a specific pollutant is known to cause adverse health effects in an exposed population. For some pollutants, California's standards are more stringent than national standards (Planning and Technical Support Division, 2003).

Why is it important?

Air pollution generated on one side of the border impacts the communities on the opposite side of the border. The border region includes two air basins (areas with similar meteorological and geographic conditions): San Diego and the Salton Sea (the latter includes Imperial County and a portion of Riverside County) (Planning and Technical Support Division, 2003). Although not officially recognized, the Tijuana/San Diego metropolitan area and the Mexicali/Imperial County region should be considered as common air basins because pollutant emissions from either side of the border can affect air quality in the entire basin (Lampell, 2002).

What is the status in the border region?

Each year federal and state environmental agencies classify air basins according to their attainment status for the criteria pollutants (Planning and Technical Support Division, 2003). Despite its large population and economic growth rates, and even greater increases in vehicle usage, the overall air quality in San Diego County has improved in the past 20 years, mostly by reduced emissions from vehicles and industry and control of dust from unpaved roads (Lampell, 2002).

Table 4.1

California (State) and National Air Quality Standard Designations for Border Counties, 2001

County	Standard	Ozone[1]	PM_{10}[2]	Carbon Monoxide[3]
Imperial	**State**	Nonattainment	Nonattainment	Nonattainment[4]
	National	Nonattainment	Nonattainment	Unclassified/ Attainment
San Diego	**State**	Nonattainment	Nonattainment	Attainment
	National	Unclassified/ Attainment	Unclassified[5]	Unclassified/ Attainment

[1]National standard for ozone refers to the one-hour standard.
[2]Particulate Matter (≤10 micrometers in size). There are only two national designation categories: nonattainment and unclassified.
[3]There are only two national designation categories: unclassified/attainment and nonattainment.
[4]Only the city of Calexico is nonattainment.
[5]"Unclassified" indicates that there are insufficient data for determining status.
Source: California Air Resources Board, 2003. Available: *http://www.arb.ca.gov/aqd/almanac/almanac03/pdf/almanac2003all.pdf*

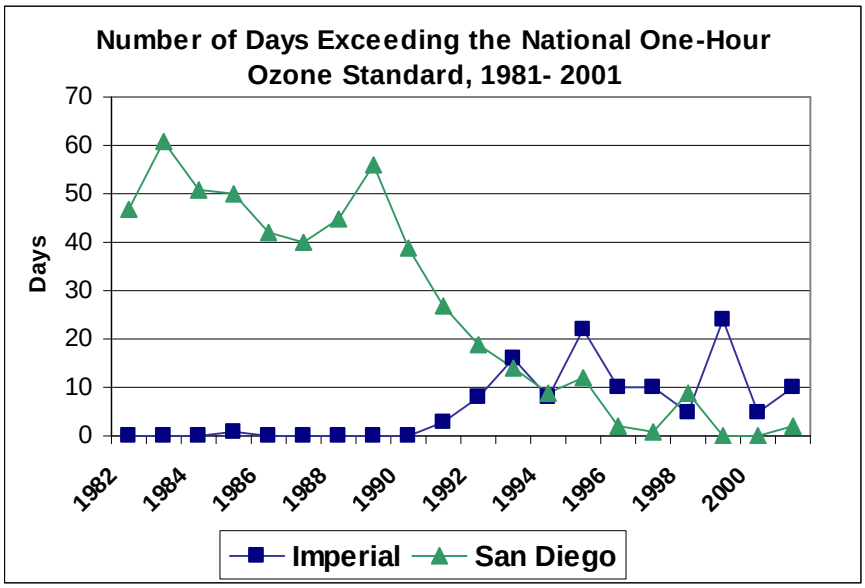
Ozone

Ozone is the chief component of urban smog and is a pollutant that can exacerbate asthma and other respiratory diseases. Vehicles are responsible for most of the emissions of ozone precursors (Lampell, 2002). Ozone can affect large areas, even far downwind of the emissions.

Most of the major urban areas in California, as well as rural Imperial County, are designated as being nonattainment for the national one-hour ozone standard. San Diego County meets this standard, although it has not yet been redesignated as an attainment area. Both San Diego and Imperial Counties are designated as nonattainment for the stricter state one-hour standard (Table 4.1).

Over the past decade, San Diego County greatly reduced the number of days with ozone exceeding national and state standards (Figure 4.1). According to the national standard, the county went from 96 days of high ozone in 1990 to only two days in 2001. During that same period, the number of days that national ozone standards were exceeded in Imperial County increased from no days in 1990 to ten days in 2001 (Planning and Technical Support Division, 2003). In Imperial County, vehicles traveling on highways were responsible for the bulk of the ozone precursor emissions, followed by off-highway vehicles, primarily diesel agricultural equipment (Lampell, 2002).

Figure 4.1

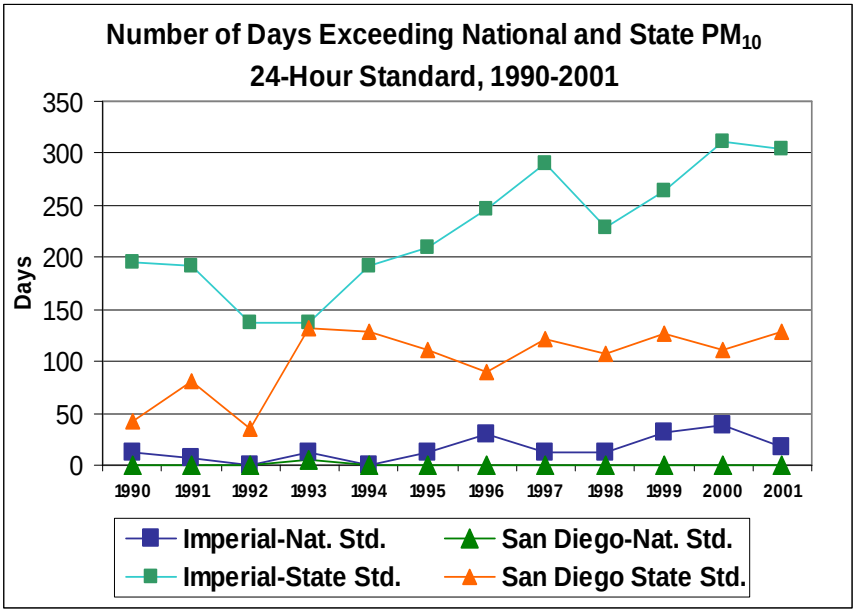


Source: California Air Resources Board, 2003. Available: *http://www.arb.ca.gov/aqd/almanac/almanac03/pdf/almanac2003all.pdf*

Particulate Matter (PM_{10})

PM_{10} is a mixture of solid particles and liquid droplets that measure less than or equal to 10 micrometers in size. PM_{10} is the respirable portion of particulate matter that results in lower airway exposure. A widespread problem in California, PM_{10} sources include dust, street sand, vehicle exhaust, crushing/grinding operations, wood burning, and travel on unpaved roads. The major health effect associated with PM_{10} is exacerbation of existing health problems such as asthma and other respiratory illnesses. Exposure to PM_{10} can cause premature death in people with existing heart and lung conditions (Agency for Toxic Substances and Disease Registry, 2004).

Figure 4.2



Source: California Air Resources Board, 2003. Available: *http://www.arb.ca.gov/aqd/almanac/almanac03/pdf/almanac2003all.pdf*

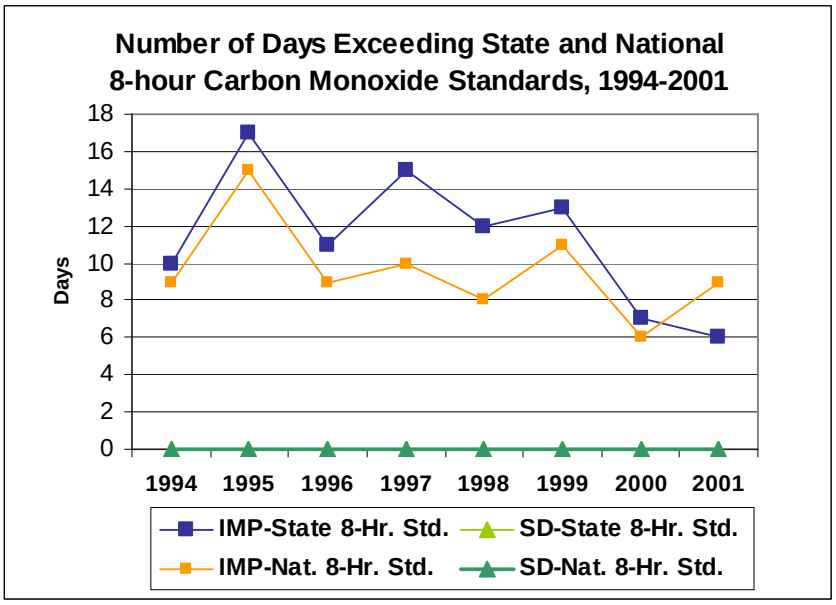
PM_{10} is a serious air pollution problem in Imperial County, which is a nonattainment area for the PM_{10} national 24-hour standard (Table 4.1, Figure 4.2). Most of California – including the two border counties – is designated as nonattainment for the stricter PM_{10} state standards (Planning and Technical Support Division, 2003). About 54 percent of PM_{10} in Imperial County comes from "fugitive dust" (mostly from unpaved roads), and another 30 percent is generated by agriculture (agricultural tilling and animal feedlots). Open burning is responsible for less than one percent (0.7 percent) of emissions (Lampell, 2002).

Carbon Monoxide (CO)

Carbon monoxide (CO) is a bi-product of combustion, which is mostly emitted directly by cars and trucks. Carbon monoxide reduces the ability of the blood to carry oxygen, which can be critical for people with heart disease, chronic lung disease, or anemia, as well as for unborn children (Environmental Health Investigations Branch, 2002). Unlike other pollutants, CO problems tend to be localized. In recent decades, CO levels have decreased greatly in most areas of California as a direct effect of using cleaner fuels and vehicles, despite significant increases in population and vehicle use.

In 2001, national CO standards were attained in most areas of California, including the two border counties. The city of Calexico, located adjacent to the border in Imperial County, had CO concentrations above the national standards, but the U.S. Environmental Protection Agency (EPA) has not designated the community as nonattainment. Between 1994 and 2001, San Diego County did not exceed the national or state CO standards (Figure 4.3).

Figure 4.3



Source: California Air Resources Board, 2003. Available:
http://www.arb.ca.gov/aqd/almanac/almanac03/pdf/almanac2003all.pdf
Imp = Imperial County, SD = San Diego County, Nat. = National

For the state CO standards, only the city of Calexico and Los Angeles County were designated as nonattainment areas in California. High cross-border traffic volume has been reported as being most likely responsible for the CO problem in Calexico. The number of days exceeding state CO standards for Imperial County has decreased in recent years from a peak of 17 days in 1995 to six days in 2001 (Planning and Technical Support Division, 2003).

Nitrogen dioxide and sulfur dioxide

All air basins in California and the border region were either in attainment or were not classified for nitrogen dioxide and sulfur dioxide criteria air pollutants (Planning and Technical Support Division, 2003).

Air quality in Mexicali and Tijuana, Baja California

In Mexicali, PM_{10} is the most serious air pollutant. About 94 percent of the pollutant in the area comes from "fugitive dust" (mostly from unpaved roads and to a lesser extent from wind erosion). Another serious air quality issue is CO, with 91 percent of emissions originating from vehicles. Mexicali is also considered to be in nonattainment of Mexican standards for CO and ozone, most of which is generated by motor vehicles (Lampell, 2002).

Tijuana is considered to be in compliance for CO, and in recent years reported only a few days with excessive ozone levels. In 1998, Tijuana had only five days in which the community exceeded the maximum PM_{10} permitted levels in Mexico. The main source of PM_{10} emissions is unpaved roads (Lampell, 2002).

What is being done?

As part of the *Border 2012* program, federal, state, and local agencies in the United States and Mexico have agreed to collaborate in addressing their common environmental issues at the border. One of the program's goals is to reduce air pollution in the region (U.S. Environmental Protection Agency, 2002).

A group of concerned residents and community organizations from both sides of the border have formed a stakeholders group to address regional air quality and its effects on health. The group is developing a strategic plan to reduce air pollution in the region.

Water Quality

What is it?

Water pollution is an alteration by waste of the quality of bodies of water such as oceans, lakes, rivers, and underground water sources, to a degree that unreasonably affects their beneficial uses or facilities that serve their beneficial uses. Pollutants include dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water (California Environmental Protection Agency, 2002).

Why is it important?

Water pollution is a major environmental and public health problem facing the U.S.-Mexico border region. Deficiencies in the treatment of wastewater, disposal of untreated sewage, and inadequate operation and maintenance of treatment plants result in health risks for the community (DHHS, 2001).

What is the status in the border region?

A significant proportion of households in the border region are not connected to public water and sewage systems, potentially exposing residents to contaminated water (U.S.-Mexico Border Health Commission, 2003). This is less of a problem in California than in other border states.

The 2000 Census collected information about complete plumbing facilities in households (Table 4.2). Complete plumbing facilities are defined as: 1) hot and cold piped water, 2) a flush toilet, and 3) a bathtub or shower. All had to be located inside the house, apartment, or mobile home (U.S. Census Bureau, 2000).

Table 4.2

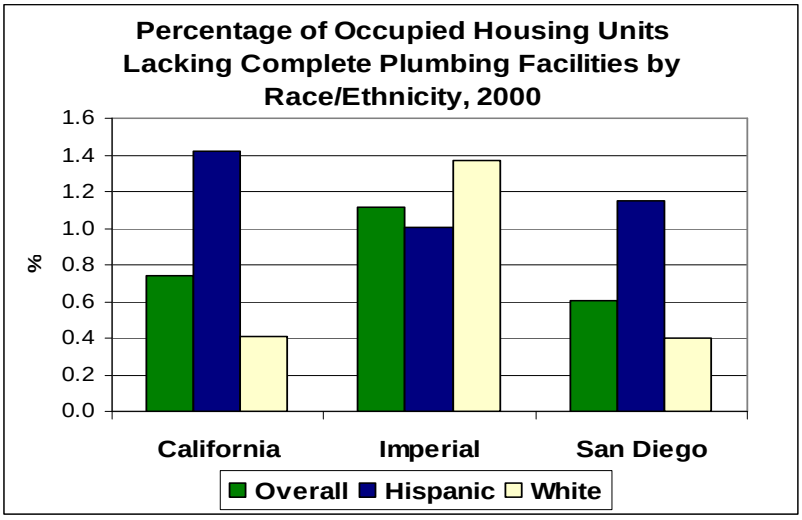
Housing Units Lacking Complete Plumbing Facilities, by Race/Ethnicity, 2000

Population	All		Hispanic		White	
	Number	%	Number	%	Number	%
Imperial	439	**1.1**	252	**1.0**	159	**1.4**
San Diego	6,037	**0.6**	2,089	**1.2**	2,646	**0.4**
California	85,460	**0.7**	36,505	**1.4**	27,056	**0.4**

Source: U.S. Census Bureau American Fact Finder. Census 2000 Summary File 4 (SF4). Available: *http://factfinder.census.gov/*

In 2000, a small percentage of housing units in San Diego County (0.6 percent) and statewide (0.7 percent) lacked complete plumbing (Figure 4.4). The percentage of Hispanic households that lacked complete plumbing facilities in San Diego County (1.2 percent) and statewide (1.4 percent) was about three times higher than for non-Hispanic White households (0.4 percent and 0.7 percent, respectively). In Imperial County, a slightly higher proportion of non-Hispanic White housing units (1.4 percent) lacked complete plumbing facilities compared to Hispanic households (1.0 percent) (U.S. Census Bureau, 2000).

Figure 4.4



Source: U.S. Census. Bureau American Fact Finder. Census 2000 Summary File 4 (SF4). Available: http://factfinder.census.gov/

Pesticide Exposure

What is it?

Pesticides are substances used to control a variety of pests that cause damage, economic loss, or transmit disease. There are more than 20,000 pesticide products containing 620 active ingredients on the market. Release of these chemicals into the environment through agricultural and nonagricultural application and other means poses serious risks to both human health and

ecosystems (plant and wildlife). Humans are exposed to thousands of these agents either singly or in various combinations every day through air, drinking water, food, and dust (U.S. Environmental Protection Agency, 2003).

By their nature as substances that in many cases are designed to kill pests, pesticides can pose risks to humans and to the environment. The health effects of pesticides depend on the type of pesticide. For example, pesticides such as organophosphates and carbamates affect the nervous system, while others may affect the hormone or endocrine system in the body. Additional health effects may include skin or eye irritation and other carcinogenic symptoms (U.S. Environmental Protection Agency, 2003). In many cases, the amount of pesticide people are likely to be exposed to is too small to pose a risk. To determine risk, one must consider both the toxicity and hazard of the pesticide as well as the likelihood of exposure. A low level of exposure to a very toxic pesticide may be more dangerous than a high level of exposure to a relatively low toxicity pesticide. Hospitalization may be necessary for individuals exposed to a certain degree of pesticide.

Why is it important?

When exposed to pesticides, either with or without the adequate protection, people can become ill due to acute pesticide poisoning. Acute pesticide poisoning can cause severe harm to the individual and have an economic impact due to the cost of hospitalization and loss of wages.

What is the status in the border region?

Hospitalizations due to acute pesticide poisoning may be due to exposure that occurs in the home or workplace, or any other location. Around the home, individuals may be exposed by accident, such as children playing in an area recently treated with pesticides or by ingesting a chemical. Or they may not read the label directions and fail to wear adequate protection when applying pesticides.

Workers in certain occupations may be exposed to pesticides by:

- Preparing pesticides for use, such as mixing a concentrate with water or loading the pesticide into application equipment.
- Applying pesticides, such as in an agricultural or commercial setting.
- Entering an area where pesticides have been applied to perform tasks, such as picking crops (EPA, 2003).

Hospitalization discharge data for pesticide poisoning cases was obtained from the Office of Statewide Health Planning and Development (OSHPD). Hospitals are required to submit patient discharge data semi-annually to the state. Analysis of the data showed there was no statistical difference in the age-adjusted rates for California patients diagnosed with pesticide poisoning in 1999-2002. The age-

adjusted rate for Californians overall ranged from 0.2-0.3 cases per 100,000 population. In the Hispanic population statewide, there was no statistical difference in the rate (0.2 per 100,000) (Table 4.3, Figure 4.5).

Table 4.3

Age-Adjusted Rates of Hospitalizations Due to Pesticide Poisonings in California, 1999-2001

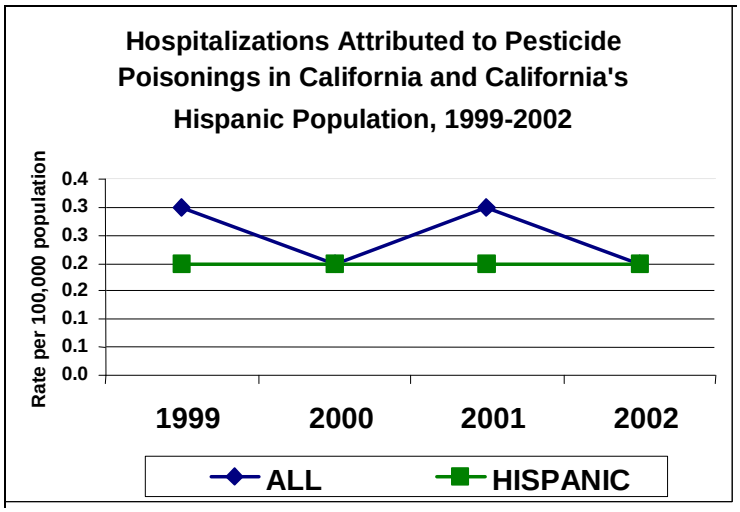
Population	1999			2000			2001		
	Cases	Rate*	(95% CI**)	Cases	Rate*	(95% CI**)	Cases	Rate*	(95% CI**)
All	93	**0.3**	(0.2-0.3)	79	**0.2**	(0.2-0.3)	86	**0.2**	(0.2-0.3)
Hispanic	27	**0.2**	(0.1-0.3)	20	**0.2**	(0.1-0.3)	23	**0.2**	(0.1-0.4)

* Note: Rates per 100,000 population.

** Note: CI=Confidence Interval, a measure of statistical uncertainty

Source: Pesticide Poisoning Cases from 1999-2001 the California Office of Statewide Health Planning and Development (OSHPD) data

Figure 4.5



Source: Pesticide Poisoning Cases from 1999, 2000, 2001, and 2002, CDHS, Office of Statewide Health Planning and Development (OSHPD).

The number of reported cases of pesticide poisoning is very small and so the calculated rates are statistically unreliable. It is very likely that there is under-reporting of acute pesticide poisonings both by providers as well as by affected individuals. The Healthy Border 2010 objective is to reduce the number of persons hospitalized for acute pesticide poisoning by 25 percent. Using the 1999 numbers as a baseline, the objective is to have fewer than 70 cases statewide and fewer than 20 cases in Hispanics statewide. On average between 1999 and 2002, Imperial County reported fewer than two cases per year. Of those, 20 percent occurred in Hispanics and 60 percent occurred in non-Hispanic White residents. San Diego County on average reported fewer than five cases per year, of which 18 percent occurred in Hispanics and 53 percent in non-Hispanic Whites (Table 4.4).

Table 4.4

Number of Hospitalizations due to Pesticide Poisonings, 1999-2002

Population		1999 Cases	2000 Cases	2001 Cases	2002 Cases
Imperial	**All**	4	0	1	0
	Hispanic	2	0	0	0
	White	2	0	1	0
San Diego	**All**	1	7	3	6
	Hispanic	0	2	0	1
	White	0	3	1	5
California	**All**	93	79	86	83
	Hispanic	27	20	23	23
	White	53	43	46	48

* Rates per 100,000 population.

** CI=Confidence Interval, a measure of statistical uncertainty

Source: Pesticide Poisoning Cases from 1999-2001 the California Office of Statewide Health Planning and Development (OSHPD) data

What is being done?

The California Department of Pesticide Regulation (DPR) has a nationally recognized program to investigate, evaluate, and track pesticide-related illnesses. The Pesticide Illness Surveillance Program documents information on adverse effects from pesticide products and maintains a database that is used for evaluating the circumstances of pesticide exposure resulting in illness. All pesticide-related illnesses must be reported to DPR. County agricultural commissioners investigate the cases, and DPR technical staff analyze the investigative reports. In a recent study, DPR found that the department's data captures primarily occupational agricultural cases, while hospital and poison control records identify mainly nonoccupational cases. The study also found that better data is available on incidents involving more than one person.

SECTION FIVE

IMMUNIZATIONS AND INFECTIOUS DISEASES

From the standpoint of infectious disease prevention and control, the border population must be considered as one, rather than two separate populations. The large movement of people, closeness of social contacts, limitations of public health infrastructure, and environmental conditions, contribute to an increased incidence of certain infectious diseases in the border region. There is a high potential for persons infected with a disease agent to cross the border, thus exposing the population in another country. These cases also present a unique challenge for diagnosis, treatment, and follow-up of communicable diseases. Sometimes referred to as "binational" cases, these are defined as occasions in which an individual traveled or lived in the neighboring country during the incubation period for a disease, or had contact with persons who had been in the neighboring country during the incubation period. Binational cooperation is needed for case investigation, case management, and follow up (Weinberg, 2003).

Immunizations

What is it?

The reduction of the burden of infectious disease represents one of the nation's greatest health achievements of the 20th century. Vaccines have significantly reduced sickness and death caused by nine infectious diseases: smallpox, diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, polio, measles, mumps, and rubella (Centers for Disease Control and Prevention, MMWR, 1999).

Why is it important?

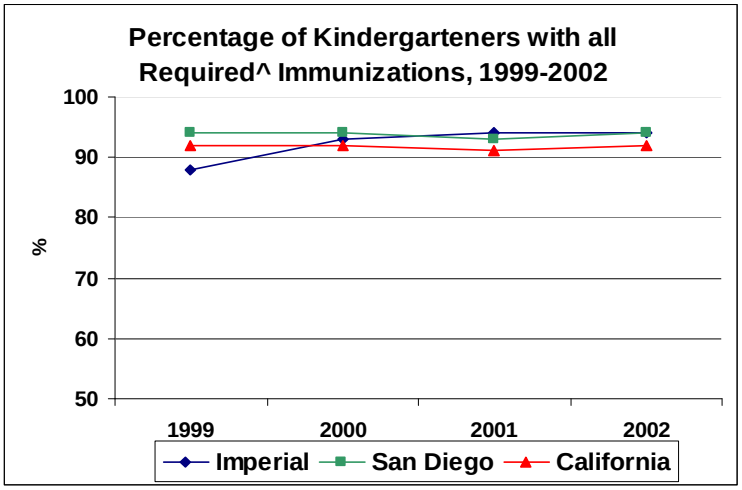
Immunization rates are at or near an all-time high, but "pockets of need" persist and the U.S. population is still vulnerable to periodic outbreaks. The United States remains at risk from low immunization rates in children and adults. It is important to understand the value and importance of vaccination as an accepted public health strategy and to continue to improve the coverage in the population.

What is the status in the border region?

The CDHS Immunization Branch and local health departments conduct school assessments each fall to monitor compliance with California's school immunization law. Representative data is collected for all kindergarteners through an annual assessment.

In Imperial County, the percentage of kindergarteners fully immunized significantly increased from 88 percent in 1999 to 94 percent in 2002. In 2002, San Diego County reported that an average of 94 percent of kindergarteners received all of the required immunizations, compared to 92 percent statewide (Figure 5.1, Table 5.1).

Figure 5.1



^ 3+ Polio, 4+DTP/DTaP, 1+MMR, 3+ HepB, and Varicella
Source: California Department of Health Services, Report on Fall 1999-2002 Kindergarten Assessment Results

Table 5.1

Kindergarteners with Required^ Immunizations, 1999-2002

Population	1999		2000	2001	2002	
	%*	(95% CI**)	%*	%*	%*	(95% CI**)
Imperial	**88.0**	(86.7-89.3)	**93.0**	**94.0**	**94.0**	(93.5-95.2)
San Diego	**94.0**	(93.7-94.2)	**94.0**	**93.0**	**94.0**	(93.8-94.3)
California	**92.0**	(91.8-92.0)	**92.0**	**91.0**	**92.0**	(92.2-92.4)

* Percentage based on participants of the State's Kindergarten Assessment

** CI=Confidence Interval, a measure of statistical uncertainty

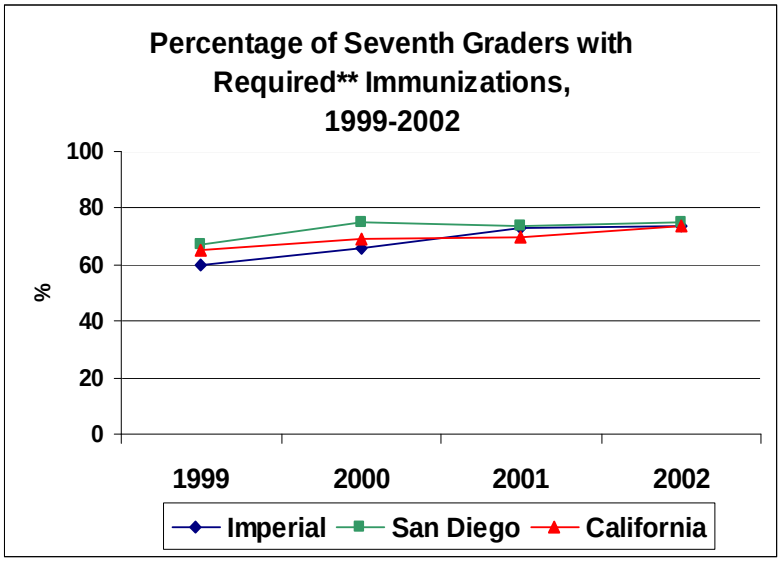
^ 3+Polio,4+DTP/DTaP,1+MMR,3+HepB,and Varicella
Source: Kindergarten assessment CA 1999-2002 Table 1 total enrollment and admission status by county

Seventh Grade Immunization Assessment

Since 1999, students entering seventh grade in California are required to show proof of having three hepatitis B and two measles, mumps, and rubella (MMR) vaccinations. The 1999-2002 Seventh Grade Immunization Assessments show significant increases in the percentage of seventh graders immunized in both Imperial County (60 percent to 74 percent) and San Diego County (67 percent to 75 percent), as well as statewide (65 percent to 74 percent) (Figure 5.2, Table 5.2).

When the immunization requirements are evaluated separately, 75–78 percent of seventh graders from the two border counties had received all three hepatitis B vaccinations, and 97–98 percent had received both of the required MMR vaccinations.

Figure 5.2



** = 3 Hepatitis B, 2 MMR
Source: California Department of Health Services, Report on Fall 1999-2002 Seventh Grade Assessment Results

Table 5.2

Percentage of Seventh Graders with Required^ Immunizations 1999-2002

	1999		2000	2001	2002	
Population	%*	(95% CI**)	%*	%*	%*	(95% CI**)
Imperial	60	(57.7-61.5)	**66.0**	**73.0**	**74.0**	(72.5-75.7)
San Diego	67	(66.5-67.4)	**75.0**	**74.0**	**75.0**	(74.9-75.7)
California	65	(65.0-65.2)	**69.0**	**70.0**	**74.0**	(73.9-74.2)

* Percentage based on participants of the Seventh Grade Assessment
** CI=Confidence Interval, a measure of statistical uncertainty
^ 3 Hepatitis B, 2 MMR
Source: Seventh Grade Assessment California 1999-2002

Immunization Assessment for Children Aged 19 to 35 Months

CDC conducts the National Immunization Survey to assess state and national immunization coverage rates to determine if they meet the Healthy People 2010 goal of achieving and maintaining an immunization coverage rate of 90 percent for children aged 19 to 35 months. The number of interviews conducted in small counties, however, is generally too small to be useful. San Diego County conducts its own random digit dialing (RDD) survey with a larger sample size.

According to San Diego County's survey, between 1999 and 2002 approximately 85 to 87 percent of 19- to 36-month-old children were fully immunized (four DTP; three Polio; one MMR schedule; San Diego County includes an additional month in its age range). The Hispanic coverage levels increased from 90 percent in 1999 to 91 percent in 2003 (San Diego County Immunization Section, 2003).

Immunizations in Mexico

According to Mexico's national data for 2002, 97.2 percent of Baja California's children aged one to four received the recommended vaccinations,[b] an increase from 89.9 percent in 1999 (Consejo Nacional de Vacunación (CONAVA), Niňos de uno a cuatro aňos). Mexico's excellent national vaccination coverage rates place Baja California as the fifth lowest state in the country, despite its high coverage. Nationally, the coverage rate for children aged one to four did not differ significantly from 1999 to 2002, with an average coverage rate of 97.8 percent of the targeted population. Mexico's goal for 2001–06 is to maintain vaccination coverage at or above 95 percent for children aged one to four (CONAVA, Esquemas Completos).

What is being done?

Binational Immunization Initiative

Co-chaired by San Diego County immunization staff and Tijuana Secretariat of Health personnel, the Binational Immunization Initiative meets monthly to share information and develop binational immunization activities that target the children in the San Diego-Tijuana border region. The Initiative developed a Binational Immunization Card for health care providers, and hosted the Second Annual Binational Immunization Conference in Tijuana in September 2003.

Notes:

[a] California Department of Health Services, Immunization Branch: 3+Polio, 4+DTP/DTaP, 1+MMR, 3+HepB, and Varicella.

CDC recommended vaccination schedule: 4 each of DTaP (diphtheria, tetanus, pertussis, PCV7 (Pneumococcal Conjugate Vaccine), 3 each of Polio, hepatitis B, and at least 1 Hib (Hib meningitis, *Haemophilus influenzae* b conjugate vaccine given on or after the first birthday), MMR (measles, mumps and rubella) given on or after the first birthday, 1 varicella, 1 hepatitis A, (second dose 6-12 months later).

[b] Mexico's complete vaccination schedule includes: BCG (tuberculosis), Sabin (poliomyelitis), Pentavelent (diphtheria, pertussis, tetanus, hepatitis B and *Haemophilus influenzae* type b, and MMR (measles, mumps, rubella).

Tuberculosis

What is it?

Tuberculosis (TB) is an airborne infection caused by *mycobacterium tuberculosis*. Anyone inhaling air containing the TB bacteria may become infected. If TB infection progresses to active TB disease, it takes six months or more of appropriate medications to cure.

Why is it important?

TB is one of the leading causes of death from infectious diseases worldwide. CDC is committed to eliminating TB from the United States. This is defined as having less than one case of TB per one million persons per year. According to the CDC, achieving this goal will not be possible without strengthening collaborations with national and international health partners to improve reaching, testing, and treating those at highest risk for TB.

What is the status in the border region?

In 2002, California reported the lowest TB case count ever recorded in the state, corresponding to a rate of 8.9 per 100,000 population (Table 5.3). This rate represents a 16 percent decrease in incidence from 1999. However, the decline in TB incidence masks substantial disparities in rates for certain high-risk populations (CDHS, 2004).

Table 5.3

Tuberculosis Cases and Rates, 1999-2002

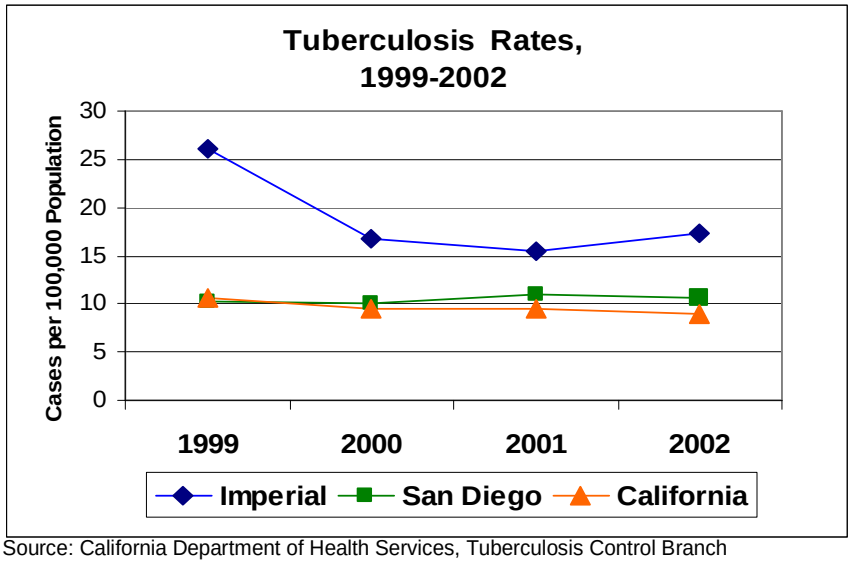
Population	1999		2000		2001		2002		% Change in Rates
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	1999-2002
Imperial	38	26.1	26	16.8	25	15.5	29	17.3	-33.7
San Diego	296	10.3	295	10	332	11	326	10.6	2.9
California	3,608	10.6	3,297	9.5	3,332	9.5	3,169	8.9	-16.0
U.S		6.4		5.8		5.6		5.2	-18.8
Baja California	787	33.8	880	36.7	1,321	54.0	1,206	48.1	42.3
Mexico		17.2		15.7		16.2		15.1	-12.2

* Rates were calculated per 100,000 residents

Source: California Department of Health Services, Tuberculosis Control Branch; Direccion General de Epidemiologia/SSA, Mexico. Sistema Unico de Informacion para la Vigilancia Epidemiologica.

In the border region, Imperial County's TB rates (17.3 cases per 100,000 population in 2002) have been among the two highest of all California counties for several years. On a positive note, TB rates in Imperial County have decreased more (33.7 percent) between 1999 and 2002 than the statewide rate (Table 5.3, Figure 5.3). During the same period, TB rates in San Diego County increased by 2.9 percent (CDHS, 2004).

Figure 5.3



Source: California Department of Health Services, Tuberculosis Control Branch

Large disparities in TB rates continue to exist among certain population groups. Among major racial/ethnic groups in the border counties in 2002, Hispanics had the second highest TB rates, after Asian/Pacific Islanders. TB rates among Hispanics in San Diego and Imperial Counties (19.4 and 22.2 per 100,000, respectively) were higher than for Hispanics statewide (11.2 per 100,000). Compared to other racial/ethnic groups, Hispanics in California reported the smallest percent decline in TB rates since 1999 (13.2 percent vs. 30.8 percent for Whites) (Table 5.4, Figure 5.4).

Table 5.4

Tuberculosis Cases and Rates by Race/Ethnicity, 2002

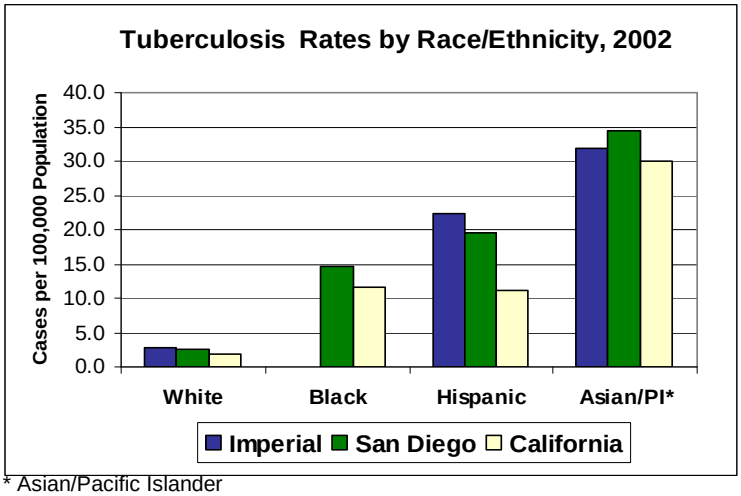
Population	White		Black		Hispanic		Asian/PI**	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	1	**2.8**	0	**0.0**	27	**22.2**	1	**31.9**
San Diego	46	**2.6**	27	**14.7**	154	**19.4**	99	**34.3**
California	323	**1.8**	277	**11.7**	1,273	**11.2**	1,285	**30.0**

* Rates were calculated per 100,000 residents

** Asian/Pacific Islander

Source: California Department of Health Services, Tuberculosis Control Branch.

Figure 5.4



* Asian/Pacific Islander

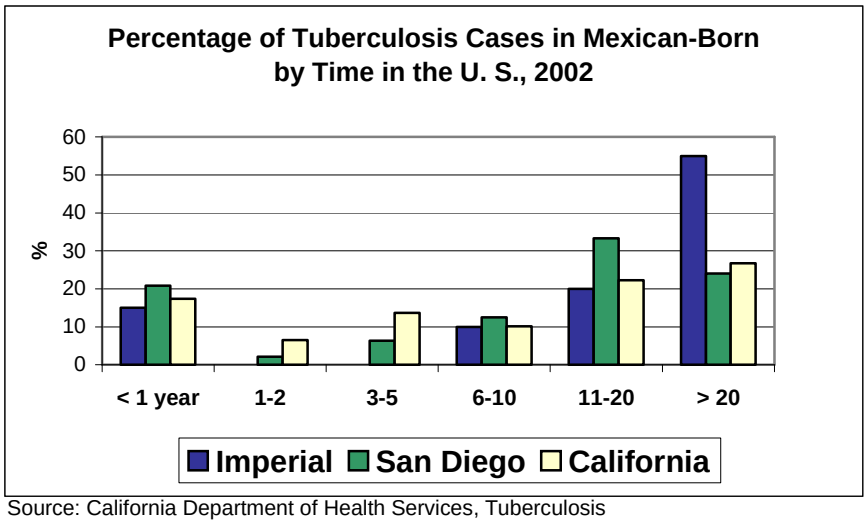
Source, California Department of Health Services, Tuberculosis Control Branch

TB Among the Mexico-born Population in California

In 2002, more than 75 percent of TB cases in California occurred in foreign-born persons, with the highest percentage of cases among persons born in Mexico (25.6 percent). It is important to note that nearly 12 percent of California's population was born in Mexico.

TB rates for Mexican-born residents in border counties (58.0 per 100,000 in Imperial County and 35.2 per 100,000 in San Diego County) were higher than for Mexican-born residents statewide (19.2). Looking at the distribution of TB cases among Mexican-born by the amount of time they had been in the United States, the greatest percentage of the cases (49 percent) had been in the United States for more than ten years. The second largest group (17.4 percent) was recent immigrants (less than one year) to the United States (Figure 5.5) (CDHS, 2004).

Figure 5.5

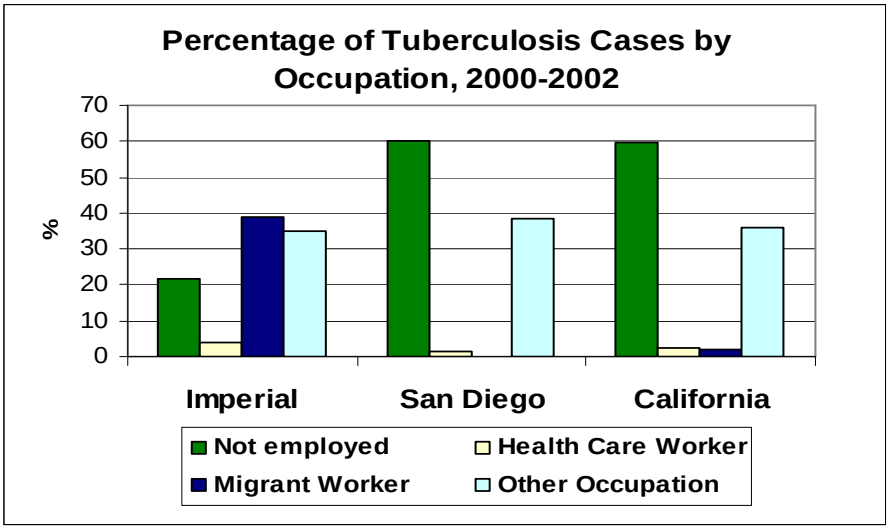


Source: California Department of Health Services, Tuberculosis

TB Cases by Occupation

During 1999-2002, the greatest percentage of TB cases reported in Imperial County was among migrant workers (39.2 percent, an average of ten cases per year), followed by the incarcerated population (19.5 percent, an average of six cases per year). In San Diego County and throughout California, TB rates for those population groups were lower, with the greatest percentage of TB cases in unemployed persons (60 percent). The incarcerated population represented 5.1 percent of the TB cases in San Diego County and 3.1 percent of statewide cases (Figure 5.6).

Figure 5.6



Source, California Department of Health Services, Tuberculosis Control Branch

TB in Mexico

Mexico, and Baja California in particular, reported higher rates of TB compared to California and the United States. However, it is important to note that the two countries use different approaches to the diagnosis, reporting, and management of TB cases. In 2002, Baja California was the state with the highest TB rate in Mexico (48.1 per 100,000). This represents a 42 percent increase from 1999 rates. The overall rate for Mexico was 15.1 per 100,000 in 2002, a 12 percent decrease from 1999 (Secretaría de Salud, México).

Drug Resistance

Resistance to first-line drugs such as isoniazid (INH) and rifampin is a rising concern. Disease caused by multidrug-resistant tuberculosis (MDR-TB) is more difficult and expensive to treat, and more likely to result in complications for the patient. Transmission of MDR-TB is a major public health concern in both Mexico and the United States.

The average frequency of resistance to isoniazid (INH) between 1999 and 2002 in San Diego County (9.9 percent of those tested for resistance to INH) was lower than the overall California rate (12.6 percent). During the same period, the rate of INH resistance in Imperial County was 12.6 percent, although the number of reported cases was small (an average of three per year) (CDHS, 2004).

In 2002, six cases of MDR-TB (2.3 percent) were reported in San Diego County and two cases (9.1 percent) were reported in Imperial County, while the overall percentage of MDR-TB in California was 1.8 percent. Although the proportion of MDR-TB cases remains low, the consequences to the public can be severe. Prevalence of drug-resistant TB strains increases concerns regarding the cross-border spread of TB (CDHS, 2004).

A 1997 population-based study in three Mexican states, including Baja California, demonstrated moderately high levels of TB drug resistance. Resistance rates to one or more first-line drugs (INH, rifampin, and pyrazinamide) were 12.9 percent in new TB cases and 50.5 percent in cases receiving repeat treatment. MDR-TB rates were 2.4 percent in new cases and 22.4 percent in previously treated cases (Granich, et al. 2000).

What is being done?

Binational TB Patient Referral Program

An important CDC effort has been the establishment of a binational TB referral system for TB patients who cross the U.S.-Mexico border (Centers for Disease Control and Prevention, MMWR, 2003). CDC and the National Tuberculosis Program in Mexico, in collaboration with federal, state, and local organizations from both countries, began piloting a binational TB referral and case management system. Patients with active TB who travel to the neighboring country receive a Binational Health Card and information about where to obtain health care services to complete TB treatment in the destination country. This new program will integrate other existing TB referral services. An evaluation of this project is underway (Centers for Disease Control and Prevention, National Prevention Information Network, 2003).

CureTB

The CureTB program, based in San Diego County, was developed to improve the continuity of care for TB patients traveling between the United States and Mexico. CureTB staff, primarily Mexican physicians familiar with the Mexican and United States health care systems, contact patients before they cross the border to assist and motivate patients to continue care and work with providers to facilitate access to care. Between January 1997 and December 2002, CureTB received more than 1,850 requests for services, of which 30 percent were for active TB cases who moved during diagnostic workup or treatment.

Treatment completion was documented for 59 percent of referred TB cases; 16 percent were lost to follow-up; 6 percent died; 5 percent refused treatment; and another 5 percent were linked to services but had no follow-up information available. A small percentage either returned to the referring jurisdiction, had no treatment recommended by the receiving provider, or moved outside of the United States and Mexico (CureTB, 2003).

Hepatitis A

What is it?

Hepatitis A is one of the most frequently reported vaccine preventable diseases in the United States (Centers for Disease Control and Prevention, MMWR, 1999). The disease causes inflammation of the liver. Most people recover from the hepatitis A virus (HAV) without any lasting health problems; however, the disease can sometimes be more severe. Transmission of HAV is usually by ingesting water or food contaminated with fecal materials containing the virus.

Why is it important?

CDC recommends widespread vaccination of susceptible populations and high-risk groups – illicit drug users, men who have sex with men, persons traveling to HAV-endemic countries, and infants and children in areas with high HAV prevalence such as the border region – to reduce the incidence and potentially eliminate indigenous transmission of hepatitis A (Centers for Disease Control and Prevention, MMWR, 1999). Mexico is a high endemic country for hepatitis A infection (Centers for Disease Control and Prevention, 2001). Hepatitis A is also a common source of cases of foodborne illness on both sides of the border.

What is the status in the border region?

From 1999 to 2002, hepatitis A rates decreased significantly in Imperial and San Diego Counties, as well as throughout California (Table 5.5, Figure 5.7). This continues a trend of declining rates of hepatitis A since 1994 and is likely related to universal recommendations for hepatitis A vaccination for children. California has achieved the Healthy People 2010 national objective to reduce the number of cases of hepatitis A to no more than 4.5 cases per 100,000 population. However, hepatitis A rates in both Imperial and San Diego Counties exceed this objective.

Table 5.5

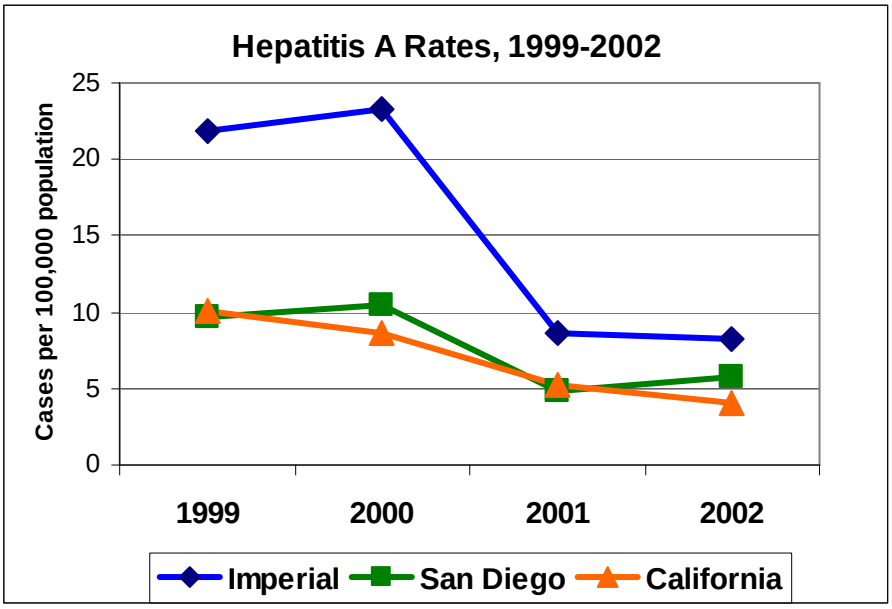
Hepatitis A Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	33	**21.9**	36	**23.3**	14	**8.7**	14	**8.3**
San Diego	276	**9.7**	310	**10.5**	148	**4.9**	175	**5.7**
California	3,439	**10.1**	2,992	**8.6**	1,848	**5.2**	1,452	**4.1**
Healthy People 2010 Target		**4.5**		**4.5**		**4.5**		**4.5**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 5.7



Source: California Department of Health Services

In 1999, the hepatitis A rate in Imperial County (21.9 per 100,000 population) was significantly higher than rates for San Diego County (9.7) and California as a whole (10.1). In 2002, hepatitis A rates were not significantly different in the border counties.

Table 5.6

Hepatitis A Cases and Rates by Race/Ethnicity, 2002

Population	Hispanic		White		Black		Asian/PI**	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	13	**10.7**	0	**0.0**	0	**0**	0	**0.0**
San Diego	64	**8.1**	78	**4.4**	3	**1.6**	11	**3.8**
California	416	**3.7**	574	**3.3**	45	1.9	106	**2.5**

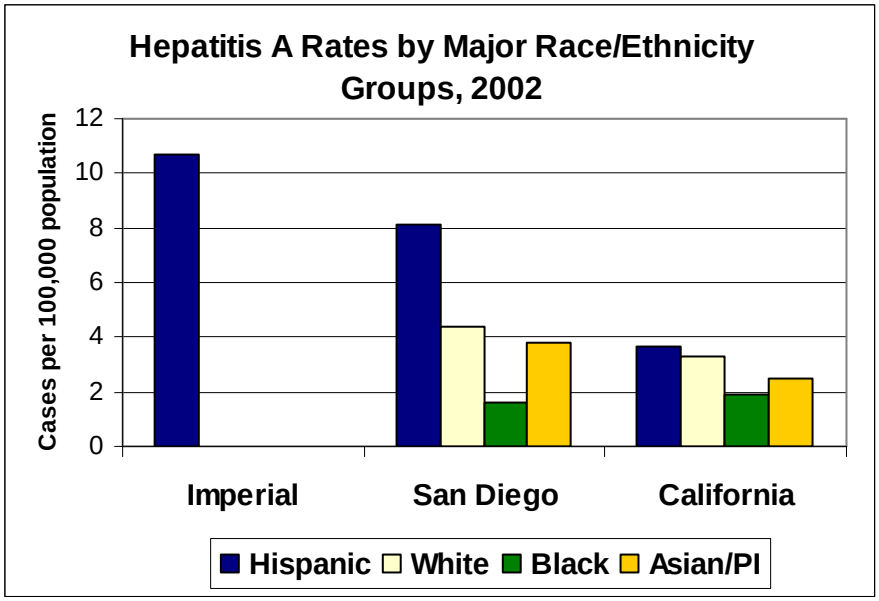
* Rates were calculated per 100,000 residents

** Asian/Pacific Islander

Source: California Department of Health Services

Hepatitis A disproportionately affects Hispanics in both border counties (Table 5.6, Figure 5.8). In 2002, Hispanics in San Diego County had significantly higher rates (8.1 per 100,000 population) than non-Hispanic Whites (4.4) or Blacks (1.6). In Imperial County, all hepatitis A cases (n=13) were among Hispanics. The rates among Hispanics in Imperial and San Diego Counties (10.7 and 8.1 per 100,000, respectively) were higher than among Hispanics statewide (3.7 per 100,000).

Figure 5.8



Source: California Department of Health Services

Hepatitis B

What is it?

Hepatitis B is a serious viral inflammatory disease of the liver. Hepatitis B virus (HBV) can cause lifelong infection, cirrhosis of the liver, liver cancer, liver failure, and death.

Why is it important?

A safe and effective vaccine to prevent hepatitis B has been available for nearly two decades and the primary means to prevent HBV transmission and HBV-related chronic liver disease is by widespread vaccination (Centers for Disease Control and Prevention, Division of Viral Hepatitis, 2004; DHHS, 2001).

What is the status in the border region?

The Healthy People 2010 national objective is to reduce the rate of hepatitis B to no more than 2.4 cases per 100,000 population among 19 to 24 year olds, 5.1 cases per 100,000 population among 25 to 39 year olds, and no more than 3.8 cases per 100,000 among the population aged 40 and older.

Table 5.7

Hepatitis B Acute Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Imperial	12	**8.0**	21	**13.6**	1	**0.6**	1	**0.6**
San Diego	38	**1.3**	37	**1.3**	42	**1.4**	29	**0.9**
California	1,234	**3.6**	1,083	**3.1**	854	**2.4**	614	**1.7**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Overall, hepatitis B rates in California have significantly decreased from 3.6 cases per 100,000 population in 1999 to 1.7 cases per 100,000 in 2002 (Table 5.7). In Imperial County, the number of cases per year has decreased from 12 cases in 1999 to one in 2002. The hepatitis B rate in San Diego County in 2002 (0.9 per 100,000 population) was not significantly different from the 1999 rate (1.3), but the rate was significantly lower than that of California as a whole (1.7 per 100,000). In 2002, California and the border counties met the Healthy People 2010 target for hepatitis B.

The number of hepatitis B cases among major race/ethnicity groups in border counties was too small for analysis. Also, race/ethnicity information was missing from a high percentage of hepatitis B case reports. At the state level, the hepatitis B rate for Hispanics (1.1 cases per 100,000) in 2002 was lower than for the other major race/ethnic groups, including non-Hispanic Whites (1.3) and Blacks (1.9 per 100,000).

What is being done?

The Border Infectious Disease Surveillance (BIDS) project conducts infectious disease surveillance in the U.S.-Mexico border region. The region is characterized by limited public health services and poor environmental conditions. These factors contribute to an increase in the prevalence of many infectious diseases. The BIDS project is syndrome-based with laboratory confirmation. The project initially focused on surveillance for two syndromes: hepatitis and febrile rash illness. Since then, the project was expanded to include surveillance for West Nile virus. The project was created in response to a binational consensus among public health officials about the need to establish an active surveillance system to complement and enhance existing passive systems for infectious disease surveillance along the border.

SECTION SIX

SEXUALLY TRANSMITTED DISEASES

The highly mobile nature of the border population, combined with population pressures and poverty due to international and national (rural-to-urban) migration patterns, has led to an increase in infectious disease rates in the border region. The problem is exacerbated because populations most at risk, such as migrant workers, are also often marginal to society, highly mobile, and difficult to access. Recent data suggest that Mexican migrants and recent immigrant populations throughout California are more likely to engage in high-risk sexual practices after moving to the United States, which consequently increases their risk of HIV and other sexually transmitted infections. Suggested reasons for the increased risk of acquiring HIV and other sexually transmitted diseases among this population include limited knowledge regarding the mechanisms of infection and prevention, multiple partners, low condom use, and increased alcohol and drug use, including both illegal drugs and self-injection of vitamins and antibiotics (Sanchez, 2003).

HIV/AIDS

What is it?

Acquired Immunodeficiency Syndrome (AIDS) is the final stage of infection with the human immunodeficiency virus (HIV). HIV attacks the body's immune system, making it susceptible to illnesses and infections. Until recently, only AIDS was reportable. As of July 2002, HIV is a reportable disease in California, but by non-name identifier only.

Why is it important?

AIDS is one of the most serious public health problems of our time. It is a life-threatening condition that has reached epidemic proportions. The disease disproportionately affects younger people and, increasingly, minority populations such as Hispanics and African Americans.

What is the status in the border region?

The Healthy People 2010 objective is one new AIDS case among adolescents and adults per 100,000 population, and 43 total cases (new and existing) per 100,000 population (DHHS, 2001). Both Imperial County and San Diego County failed to meet this objective during the four-year period ending in 2002.

Table 6.1

New AIDS Cases in the Border Region by Year of Diagnosis, 1999-2002

Population	1999		2000		2001		2002		Percent Change in Rates
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	1999-2002
Imperial	0	0.0	2	1.3	8	5.4	0	0.0	0.0
San Diego	449	16.1	464	16.3	443	15.4	442	15.0	-6.8
California	4845	14.4	4388	12.9	4182	12.0	4093	11.6	-19.4

* Rates were calculated per 100,000 residents.
Source: County of San Diego HIV/AIDS Epidemiology Report, 2003; Acquired Immune Deficiency Surveillance Report for California, 1998-2002.

Although Imperial County reported a low incidence of AIDS (Table 6.1), the county shares boundaries with high-rate counties — San Diego and Riverside— and also with Baja California Norte, one of the Mexican states with the highest cumulative rate and incidence of AIDS in Mexico. The majority of the cases are Hispanic (81 percent), and 12.5 percent are non-Hispanic White.

Table 6.2

Number of AIDS Cases and Deaths, 1999-2002

Population	1999			2000			2001			2002		
	Cases	Deaths	Death Rate	Cases	Deaths	Death Rate	Cases	Deaths	Death Rate	Cases	Deaths	Death Rate
California	115,324	70,913	**346.9**	119,900	73,544	**355.0**	123,819	75,394	**360.6**	128,196	77,377	**378.5**
Imperial	101	49	**71.1**	109	56	**76.4**	111	56	**76.4**	111	55	**78.0**
San Diego	10,162	5,855	**383.6**	10,629	5,998	**372.5**	11,058	6,259	**379.8**	11,520	6,418	**408.4**

Source: California Department of Health Services, Office of AIDS, available: *www.dhs.ca.gov/AIDS/statistics/default.htm.*

As of December 2002, 21 percent of the total cumulative AIDS cases in San Diego County were Hispanic, compared to 64 percent who identified themselves as non-Hispanic White. This is slightly lower than the proportion of Hispanics in San Diego County's overall population (27 percent). Of the Hispanics diagnosed with AIDS in that county, approximately 68 percent are foreign born (San Diego County Health and Human Services Agency, 2003). In 1999-2002, the AIDS death rates for San Diego County gradually increased over the four-year period. San Diego County's rates were slightly higher than the statewide rates. Imperial County reported very low case rates and death rates from AIDS compared to San Diego County and California as a whole (Table 6.2).

Newly diagnosed AIDS cases among Hispanics in California have steadily increased, evidence that HIV/AIDS continues to be a significant public health problem for the state's Hispanic population (Facer, 2003). As of June 2003, Hispanics represented 20.8 percent (26,853) of the 131,323 cumulative AIDS cases and 25.2 percent (13,346) of the 52,861 living AIDS cases in California.

The percentage of Hispanic AIDS cases that are Mexican or Mexican American has increased from 36.5 percent in 1995 to 47.7 percent in 2000 (DHHS, Office of AIDS, 2003). A large percentage of California's Hispanic population is of Mexican origin (78 percent), yet this population accounts for less than half of the Hispanic AIDS cases. This means that other Hispanic groups have higher rates than the Mexican-origin group (Facer, 2003).

Many health disparities exist for Hispanics living with HIV in the United States. Hispanics in general are less likely than non-Hispanic Whites to access early prevention services or regular outpatient care for HIV, resulting in a higher AIDS-related mortality rate (Solorio, 2003). Compared to other racial/ethnic groups, Latino females were more likely to be infected through heterosexual contact than because of other risk factors (Facer, 2003).

HIV/AIDS in Mexico

According to the official report from Mexico's National AIDS Program, there was a cumulative total of 52,472 AIDS cases reported nationwide as of March 31, 2002 (U.S. Agency for International Development, Bureau for Global Health, 2004). The Mexican Government estimates that there are as many as 64,000 AIDS cases and an additional 116,000 to 177,000 people who are currently infected with HIV as of March 2002. In 2003, AIDS was the 16th leading cause of death in Mexico, but the fourth leading cause of death among men aged 25-34, and seventh among women in this age group (Avila-Figueroa et al. 2003).

Of the nearly 150,000 people living with HIV/AIDS in Mexico in 2003, it is estimated that approximately two-thirds (99,000) are men who have sex with men; 38,600 are adult heterosexuals; 3,300 are female commercial sex workers; 1,700 are male commercial sex workers; 4,500 are prisoners; and 2,900 use needles to inject drugs (U.S. Agency for International Development, Bureau for Global Health, 2004).

AIDS in Mexico is mostly concentrated in men, with a male-to-female ratio of six to one. Heterosexual transmission, however, is increasing, and in some states it is now the predominant mode of transmission (Centro Nacional para la Prevencion y Control del VIH/SIDA, 2003). Migration is having an effect on the spread of HIV/AIDS in rural areas of Mexico and among women. It is estimated that in about 30 percent of AIDS cases in Mexico, the disease was transmitted by someone who had traveled to the United States. Caution must be used when comparing these figures with those of the United States because of different surveillance definitions and diagnosing capacity between the two countries. (Centro Nacional para la Prevencion y Control del VIH/SIDA, 2003). The HIV prevalence rate in Mexico is estimated to be 0.29 percent, compared to 0.61 percent in the United States. (ONUSIDA, Epidemia Mundial de VIH/SIDA, 2000).

What is being done?

The CURE-Plus program is one of few programs in the United States that works to ensure the continuity of care for those who are HIV-positive or AIDS-diagnosed (and also may be infected with TB) and travel across the U.S.-Mexico border. The program facilitates patients' access to health care services and continuity of care when they travel between countries. It also provides education and guidance to patients and relatives affected by HIV/AIDS, and assists with the exchange of medical information between health care providers in both countries. In addition, the program offers technical assistance to health care providers in Mexico and the United States.

The County of San Diego's Community Epidemiology division and Office of AIDS, in collaboration with CDHS, CDC, and Mexican health officials, have conducted numerous binational research projects to determine the prevalence of HIV/AIDS in the San Diego-Tijuana area. Besides other on-going binational educational activities, HHSA co-hosted the Fourth Annual Binational AIDS Conference in Tijuana in November 2003. More than 500 presenters and participants from the United States and Mexico presented and discussed the control and prevention of HIV/AIDS in the U.S.-Mexico border region.

Chlamydia

What is it?

Chlamydia is one of the most common sexually transmitted diseases (STDs) in the United States, with an estimated three million new cases each year. Chlamydia is caused by the bacterium *Chlamydia trachomatis*. It causes urethritis in males and vaginitis in females. In 1998, a urine-based test was introduced, making testing for chlamydia easier (CDHS, STD Control Branch Provisional Data, 2003).

Why is it important?

Since reporting began in the early 1990s in the United States, there has been a steady increase in the number of chlamydia cases. It is one of the most prevalent STDs in California (California STD/HIV Prevention Training Center STD Overview for Non-clinicians Manual, 2003). Pelvic inflammatory disease (PID), a very serious infection of the reproductive organs, can occur in women who have not been treated or are inadequately treated for chlamydia. Untreated chlamydia infections are a common cause of infertility.

What is the status in the border region?

During 1999-2002, chlamydia rates were higher in San Diego County than in Imperial County or statewide (CDHS, STD Control Branch, 2003). In San Diego County, rates increased 32.7 percent over the four-year period from 263.3 cases per 100,000 population in 1999 to 349.5 cases per 100,000 in 2002. In Imperial County, rates increased 83.4 percent from 167.6 cases per 100,000 in 1999 to 307.4 per 100,000 in 2002. California rates increased 25 percent in the same period (Table 6.3).

Table 6.3

Chlamydia Rates, 1999-2002

Population	1999		2000		2001		2002	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
California	85,129	**250.1**	95,455	**280.5**	101,871	**293.6**	110,383	**312.7**
Imperial	244	**167.6**	390	**266.9**	473	**318.3**	467	**307.4**
San Diego	7,591	**263.3**	8,592	**303.6**	9,092	**315.5**	10,258	**349.5**

Note: Rates per 100,000
Source: California Department of Health Services, STD Control through January 2003

In 2002, chlamydia rates in California were highest among females, in particular in those aged 15-24 years. Statewide, chlamydia rates were highest among African Americans (634.6), followed by Latinos (330.4), American Indians (166.8), Asian/Pacific Islanders (102.8), and non-Hispanic Whites (77.5) (CDHS, STD Control Branch Provisional Data, 2003).

In 2002, chlamydia rates in both San Diego County and Imperial County were higher among the Hispanic population than other racial/ethnic groups (Table 6.4, Figure 6.1).

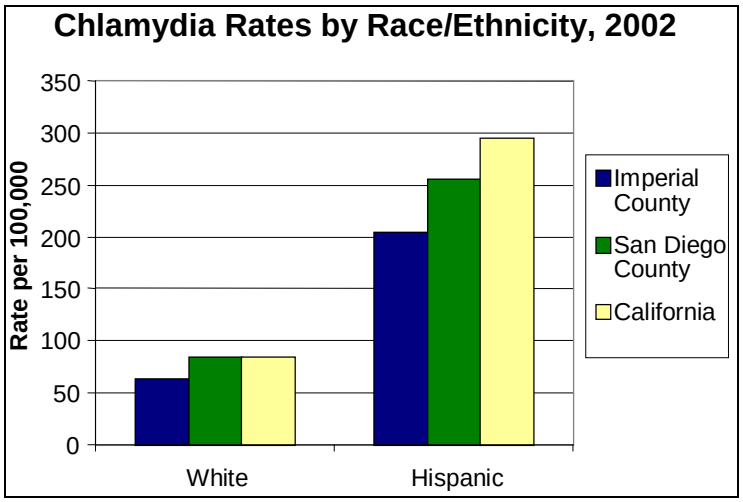
Table 6.4

Rate of Chlamydia by Region and Ethnicity, 2002

Population	White		Hispanic	
	Cases	Rate	Cases	Rate
Imperial	18	63.8	224	204.5
San Diego	1,322	84.4	2,156	255.4
California	13,593	84.8	35,432	295.2

Note: Rates were calculated per 100,000 persons in each ethnic group.
Source: CDHS, STD Control Branch.

Figure 6.1



Source: California Department of Health Services, STD Control

Gonorrhea

What is it?

Gonorrhea is caused by the bacterium *Neisseria gonorrhoeae.* Untreated gonorrhea can cause serious and permanent health problems in both women and men. Gonorrhea is a common cause of PID in women and urethritis in men, and can lead to infertility in both sexes.

Why is it important?

Gonorrhea is a very common infectious disease in the United States. CDC estimates that more than 700,000 persons in the United States are infected with gonorrhea each year. Only about half of these infections are reported to CDC.

What is the status in the border region?

Gonorrhea rates increased in both border counties and in California during 1999-2002 (Table 6.5, Figure 6.2). Neither California nor the border counties meet the Healthy People 2010 target of 19 cases per 100,000 population.

In 2002, the gonorrhea rate among non-Hispanic Whites in San Diego County was 54.5 cases per 100,000 population (947 cases), and 67.4 per 100,000 (487 cases) among Hispanics. The higher rate for Hispanics underlines the fact that gonorrhea is a greater problem in this population (San Diego County Division of STD and Hepatitis Prevention, 2003).

Table 6.5

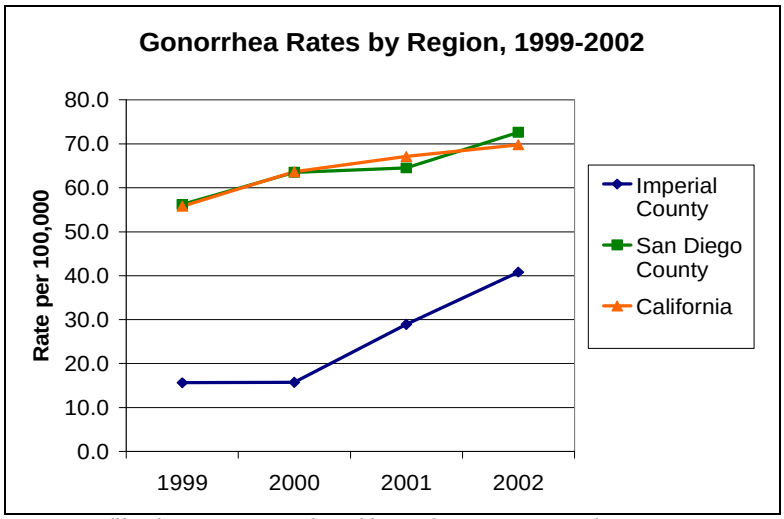
Gonorrhea Rates, 1999-2002

Population	1999		2000		2001		2002	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
California	18,654	**55.8**	21,632	**63.6**	23,277	**67.1**	24,634	**69.8**
Imperial	22	**15.6**	23	**15.7**	43	**28.9**	62	**40.8**
San Diego	1,560	**56.2**	1,798	**63.5**	1,860	**64.5**	2,132	**72.6**
Healthy People 2010		**19**		**19**		**19**		**19**

Note: Rates per 100,000

Source: California Department of Health Services, STD Control through January 2003

Figure 6.2



Source: California Department of Health Services, STD Control

In both Imperial County and throughout California, gonorrhea rates are higher among Hispanics than among non-Hispanic Whites (Table 6.6, Figure 6.3).

Table 6.6

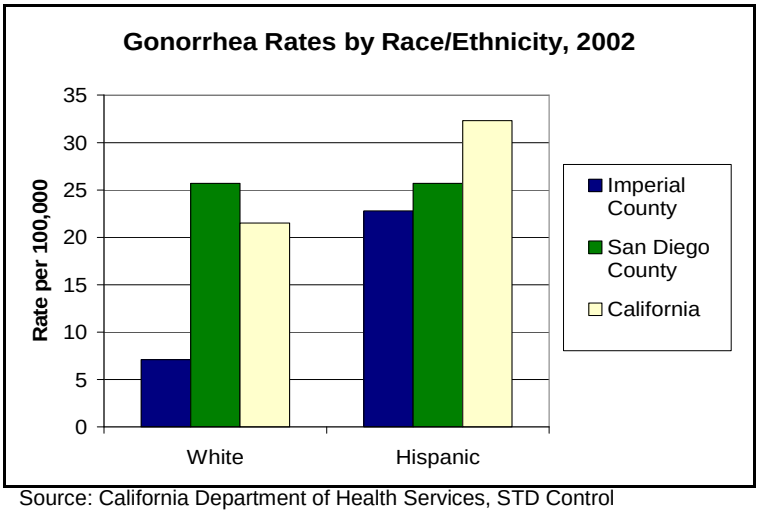
Rate of Gonorrhea by Ethnicity, 2002

Population	White		Hispanic	
	Cases	Rate	Cases	Rate
Imperial	2	7.1	25	22.8
San Diego	403	25.7	217	25.7
California	3,452	21.5	3,880	32.3

Note: Rates were calculated per 100,000 persons in each ethnic group.

Source: California Department of Health Services, STD Control

Figure 6.3



Source: California Department of Health Services, STD Control

Syphilis

Primary and Secondary (P&S) Syphilis

What is it?

Syphilis is an STD caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because many of the signs and symptoms are indistinguishable from those of other diseases (Centers for Disease Control and Prevention, STD Surveillance Report, 2001). Primary syphilis is the first stage of the disease, characterized by the chancre lesion. Secondary syphilis is a later stage with fever and rash. Many people infected with syphilis do not have any symptoms for years, and remain at risk for late complications if untreated. Although transmission appears to occur from persons with sores who are in the primary or secondary stage, many of these sores are unrecognized. For this reason, most transmission is from persons who are unaware of their infection.

Why is it important?

In the United States, health officials reported more than 32,000 cases of syphilis in 2002, including 6,862 cases of P&S syphilis. In 2002, most of these syphilis cases occurred in persons 20 to 39 years of age. The incidence of infectious syphilis was highest in women 20 to 24 years of age and in men 35 to 39 years of age. Between 2001 and 2002, the number of reported P&S syphilis cases increased 12.4 percent. Rates in women continued to decrease and, overall, the rate in men was 3.5 times that in women. This, in conjunction with reports of syphilis outbreaks in men who have sex with men (MSM), suggests that rates of syphilis in MSM are increasing.

In 2001, the national rate of P&S syphilis among Hispanics was 2.1 cases per 100,000 population, which is three times greater than the rate among non-Hispanic Whites (Centers for Disease Control and Prevention, STD Surveillance Report, 2001). The state of California mirrors that trend. In 2002, more syphilis cases were reported among Latino females, followed by African Americans, in California (Samuel, 2003).

What is the status in the border region?

In 2002, San Diego County's P&S syphilis rate was 1.3 cases per 100,000 population, which was higher than the Healthy People 2010 objective of 0.2 cases per 100,000 population. The P&S syphilis rate in San Diego County was 1.0 per 100,000 population among non-Hispanic Whites (18 cases) and 1.5 per 100,000 among Hispanics (11 cases) in 2002. Imperial County reported no cases of P&S syphilis during 1999-2002.

Table 6.7

Rates of Primary and Secondary Syphilis, 1999-2002

Population	1999		2000		2001		2002	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
California	284	**0.8**	326	**1**	546	**1.6**	1,046	**3**
Imperial	0	**0**	0	**0**	0	**0**	0	**0**
San Diego	25	**0.9**	27	**1**	27	**0.9**	38	**1.3**
HEALTHY PEOPLE 2010*	**0.2**		**0.2**		**0.2**		**0.2**	

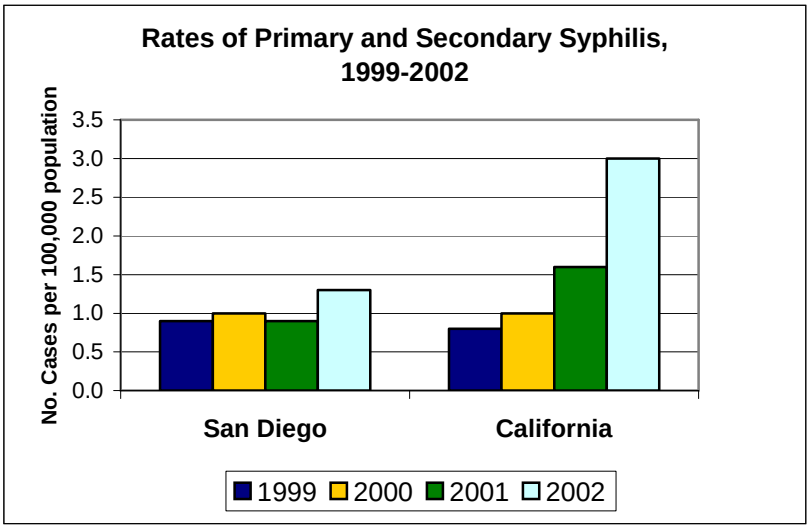
Table 6.8

Rates of Congenital Syphilis, 1999-2002

Population	1999		2000		2001		2002	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
California	92	**17.8**	82	**15.4**	62	**11.8**	49	**9.3**
Imperial	1	**40.6**	1	**38.9**	1	**38.5**	0	**0**
San Diego	14	**32.4**	3	**6.8**	7	**16**	3	**6.8**
HEALTHY PEOPLE	**1**		**1**		**1**		**1**	

Statewide, the syphilis rate increased nearly threefold during 1999-2002 from 0.8 cases per 100,000 population to 3.0 cases per 100,000 (Table 6.7, Figure 6.4). Syphilis remains endemic in Latino heterosexuals in California, which can lead to cases of congenital syphilis (Samuel, 2003), (Table 6.8).

Figure 6.4



Source: California Department of Health Services, STD Control

Congenital Syphilis

What is it?

Congenital syphilis is an infection of the newborn that is present at birth. It can occur when the mother who has syphilis is not fully treated during pregnancy. Congenital syphilis can result in birth defects including brain damage, blindness, and developmental delay in the child. The Healthy People 2010 objective is one case per 100,000 live births (DHHS, 2001).

Why is it important?

In 2001, the national rate of congenital syphilis, based on mother's race/ethnicity, was 37.8 cases per 100,000 live births among African Americans and 20.1 cases per 100,000 live births among Hispanics. These rates are 21 and 11 times greater than the rate of 1.8 cases per 100,000 live births among the non-Hispanic White population. The number of cases of congenital syphilis in newborns decreased from 492 new cases reported in 2001 to 412 cases in 2002 (Centers for Disease Control and Prevention, STD Surveillance Report 2001).

What is the status in the border region?

In San Diego County, the number of cases of congenital syphilis declined from 14 in 1999 to three in 2002. Statewide, California also reported a decrease in cases during the same period, from 92 cases in 1999 to 49 cases in 2002 (Table 6.9). Imperial County reported only three cases of congenital syphilis in the four-year period (CDHS, STD Control Branch Provisional Data, 2003).

Table 6.9

Congenital Syphilis in Infants <1 year of age by Race/Ethnicity, 1999-2002

Population		1999	2000	2001	2002
Imperial	**Hispanic**	1	1	1	0
	White	0	0	0	0
San Diego	**Hispanic**	8	2	6	3
	White	5	0	0	0
California	**Hispanic**	46	58	45	34
	White	15	6	6	4

Statewide, the number of congenital syphilis cases is three to nine times higher among Hispanics than non-Hispanic Whites. This suggests that more Hispanic women are becoming pregnant while infected with syphilis (or becoming infected during pregnancy) or delaying treatment than non-Hispanic Whites.

In California and both border counties, the number of cases of congenital syphilis in Hispanics exceeded the number in non-Hispanic Whites in 1999-2002. This suggests delay in treatment, allowing a higher percentage of syphilis-infected women to pass the disease on to their children.

What is being done?

COBBH oversees the California-Baja California Binational Syphilis Elimination Project, which attempts to prevent congenital syphilis and reduce syphilis and HIV transmission in both California and Mexico. Enhanced binational case management is provided through the creation of a Mexico-based rapid response team that conducts syphilis case follow-up, partner notification, referral, and screening activities in Tijuana and Mexicali. COBBH also is involved in the coordination and completion of training and workshops for health care providers, including pharmacists in Baja California, in collaboration with the California STD/HIV Prevention Training Center and Project Concern International.

SECTION SEVEN

FOODBORNE AND WATERBORNE DISEASES

Foodborne and waterborne illnesses impose a heavy burden on society and public health. Most are infections caused by a variety of bacteria, viruses, and parasites. Waterborne diseases are spread by unsanitary conditions or lack of water treatment facilities. Water pollution is a growing concern in the border regions of both countries (Division of Bacterial and Mycotic Diseases, 2003). Rapid population growth has overwhelmed water and sewer systems and water treatment facilities in many communities across the U.S.-Mexico border. The very young, the elderly, and persons with immune system problems experience more serious foodborne illnesses (DHHS, 2001). The following section presents information on some of the most common foodborne and waterborne diseases**.**

Campylobacteriosis

What is it?

Campylobacter is the most common bacterial cause of diarrhea in the United States. Frequent sources of campylobacter are raw and undercooked meat and poultry, raw milk, and untreated water. Symptoms include diarrhea (sometimes bloody), cramping, abdominal pain, nausea and vomiting, and fever. The illness typically lasts one week.

Why is it important?

Active surveillance indicates about 15 campylobacteriosis cases are diagnosed each year for every 100,000 persons in the population. Many more cases go undiagnosed or unreported, and campylobacteriosis is estimated to affect more than one million people every year, or 0.5 percent of the U.S. population (Partnership for Food Safety Education, 2003).

What is the status in the border region?

While campylobacteriosis rates in California remained relatively stable between 1999 and 2002, rates in San Diego County during that period significantly increased from 14.2 cases per 100,000 population in 1999 to 18.0 cases per 100,000 in 2002. In Imperial County, the number of cases more than doubled during the same period, from 14 to 39 cases per year.

In 2002, Imperial County's campylobacteriosis rate (23.2 cases per 100,000 population) was significantly higher than San Diego County's (18.0 cases per 100,000 population) and statewide (16.3 cases per 100,000 population) (Table 7.1, Figure 7.1). Neither California nor the border counties met the Healthy People 2010 target of reducing the rate to 12.3 cases per 100,000 population.

Table 7.1

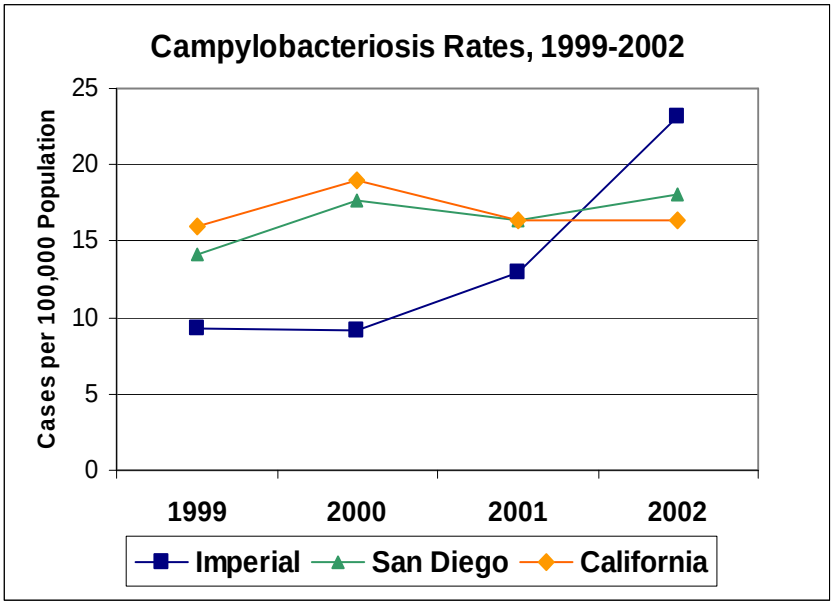
Campylobacterosis Cases and Rates, 1999-2002

	1999		2000		2001		2002	
Population	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate**	**Cases**	**Rate***
Imperial	14	**9.3**	14	**9.1**	21	**13.0**	39	**23.2**
San Diego	410	**14.2**	521	**17.7**	491	**16.3**	553	**18.0**
California	5,461	**16.0**	6,574	**19.0**	5,747	**16.3**	5,848	**16.3**
Healthy People 2010 Target	**12.3**		**12.3**		**12.3**		**12.3**	

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.1



Source: California Department of Health Services.

Among all major racial/ethnic groups in San Diego County, Hispanics had the highest campylobacteriosis rates in 1999 and 2002. While rates for non-Hispanic Whites in San Diego County were similar in 1999 and 2002, rates for Hispanics almost doubled from 15.9 cases per 100,000 population in 1999 to 29.2 cases per 100,000 in 2002.

The number of campylobacteriosis cases among Hispanics in Imperial County in 2002 was three times higher than the number in this population reported in 1999 (Table 7.2, Figure 7.2).

Table 7.2

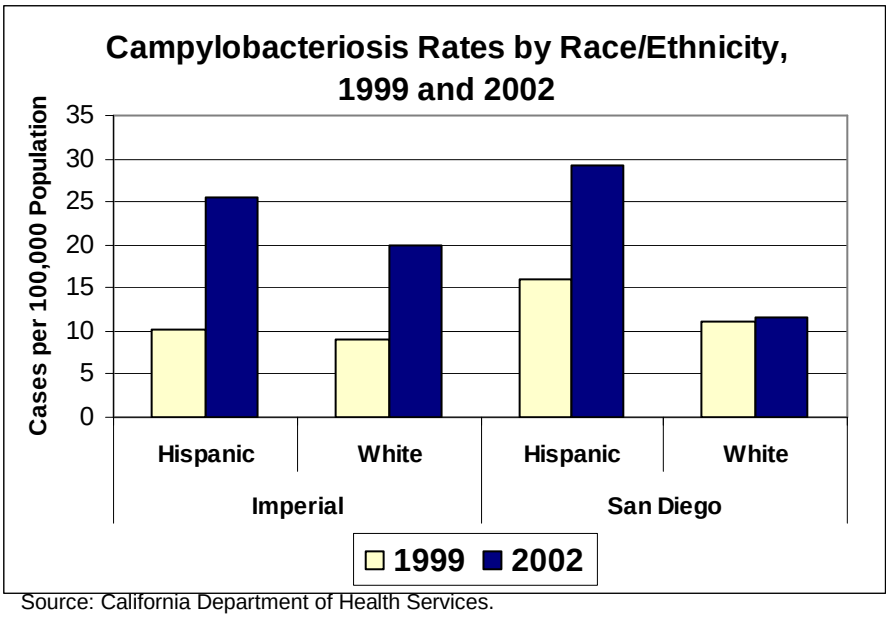
Campylobacterosis Cases and Rates by Race/Ethnicity, 1999 and 2002

Population		1999		2002	
		Cases	Rate*	Cases	Rate*
Imperial	Hispanic	11	**10.2**	31	**25.5**
	White	3	**9.0**	7	**19.9**
San Diego	Hispanic	113	**15.9**	231	**29.2**
	White	192	**11.1**	206	**11.5**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.2



Source: California Department of Health Services.

Giardiasis

What is it?

Giardiasis is a diarrheal illness caused by *Giardia intestinalis*, a microscopic parasite that lives in the intestines of people and animals. The parasite is passed in the stool of an infected person or animal. Giardiasis symptoms include watery diarrhea and stomach cramps, which could lead to dehydration. Some people infected with the parasite experience no symptoms (Division of Parasitic Diseases, 2001).

Why is it important?

During the past two decades, giardia has been recognized as one of the most common causes of waterborne illness in humans in the United States.

What is the status in the border region?

In San Diego County and throughout California, giardiasis rates significantly decreased from 1999 to 2002. The number of cases in Imperial County was relatively small and, thus, calculated rates should be interpreted with caution. Giardiasis rates for San Diego County were significantly higher than for Imperial County or California as a whole in both 1999 and 2002 (Table 7.3, Figure 7.3).

Table 7.3

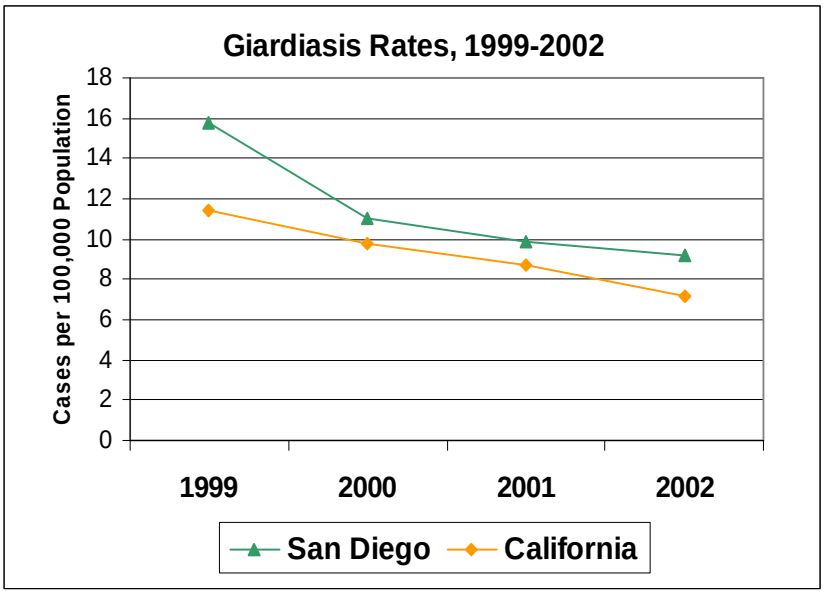
Giardiasis Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	2	**1.3**	2	**1.3**	6	**3.7**	5	**3**
San Diego	456	**15.8**	390	**11.0**	298	**9.9**	191	**9.2**
California	3,883	**11.4**	3,382	**9.8**	3,080	**8.7**	2,561	**7.2**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.3



Source: California Department of Health Services.

In San Diego County, the giardiasis rate for Hispanics (5.8 cases per 100,000 population) was almost half the rate for non-Hispanic Whites (11.8 cases per 100,000 population) in 1999. In 2002, rates were not significantly different among all major racial/ethnic groups (Table 7.4, Figure 7.3).

Table 7.4

Giardiasis Cases and Rates by Race/Ethnicity, 1999 and 2002

Population		1999		2002	
		Cases	Rate*	Cases	Rate*
Imperial	**Hispanic**	1	**0.9**	4	**3.3**
	White	0	**0.0**	0	**0.0**
San Diego	**Hispanic**	41	**5.8**	33	**4.2**
	White	203	**11.8**	90	**5.0**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Amebiasis

What is it?

Amebiasis is an infection of the intestine caused by the parasite *Entamoeba histolytica*. This disease is most common in tropical areas with poor sanitation. Transmission occurs through ingestion of cysts in fecally contaminated food or water. It can also be spread person to person, particularly via oral/anal contact. Symptoms of intestinal amebiasis include diarrhea and pain on defecation. Symptoms may last up to two weeks, and recurrences are common unless the individual is properly treated. Diarrhea may be bloody in more severe cases (Division of Parasitic Diseases, 2004).

Why is it important?

Common complications are liver abcesses and spread of the parasite through the blood to the lungs, brain, or other organs.

What is the status in the border region?

In San Diego County, amebiasis rates declined significantly from 1.4 cases per 100,000 population in 1999 to 0.7 per 100,000 in 2002. This is similar to the statewide trend. There were no significant differences in amebiasis rates among the major racial/ethnic groups. Imperial County reported an average of approximately one case of amebiasis per year (Table 7.5, Figure 7.4).

Table 7.5

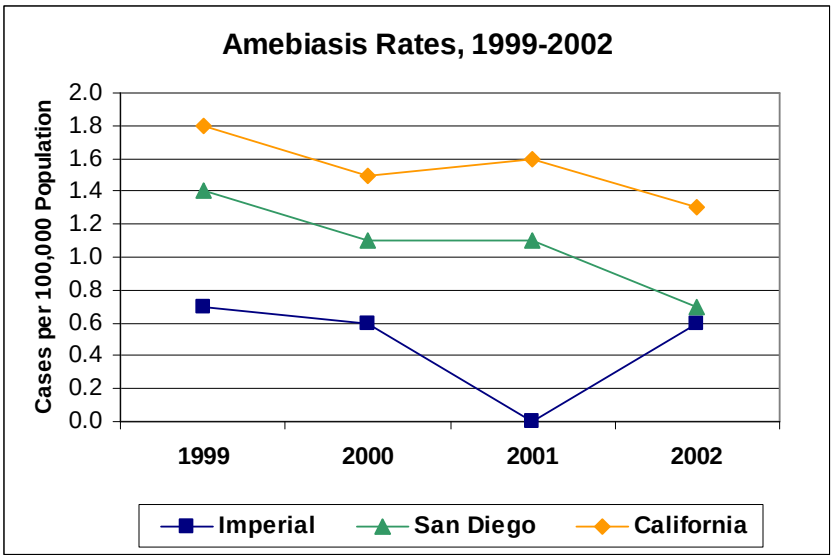
Amebiasis Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	1	**0.7**	1	**0.6**	0	**0.0**	1	**0.6**
San Diego	41	**1.4**	32	**1.1**	33	**1.1**	22	**0.7**
California	599	**1.8**	516	**1.5**	568	**1.6**	459	**1.3**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.4



Source: California Department of Health Services

Escherichia Coli 0157:H7

What is it?

Escherichia coli (E. coli) 0157:H7 is a bacterium that can produce a deadly toxin and causes approximately 73,000 cases of foodborne illness each year in the United States. Common sources include meat, especially undercooked or raw hamburger, produce, and raw milk. *E. coli* 0157:H7 infections usually cause diarrhea (bloody or non-bloody), fever, and abdominal cramps (Partnership for Food Safety Education, 2003).

Why is it important?

E. coli 0157:H7 infection is occasionally associated with hemolytic uremic syndrome (HUS), an illness characterized by the breakdown of blood cells and kidney malfunction. Children under five years of age are at greatest risk of developing HUS.

What is the status in the border region?

In California, rates of *E. coli* 0157:H7 increased significantly between 1999 and 2002. San Diego County reported rates similar to those for California as a whole. The number of *E. coli* 0157:H7 cases reported in San Diego County in 1999 was unusually low: a total of nine cases compared to 24 cases in 1998. Imperial County reported an average of approximately one case of *E. coli* 0157:H7 each year during the four-year period between 1999 and 2002. In 2002, there were no significant differences among all three regions in *E. coli* 0157:H7 rates. In 2002, California and both border counties met the Healthy People 2010 target of one case of *E. coli* 0157:H7 per 100,000 population (Table 7.6, Figure 7.5).

The number of cases of *E. coli* 0157:H7 reported in 1999 and 2002 was too small to compare reliable racial/ethnic-specific rates.

Table 7.6

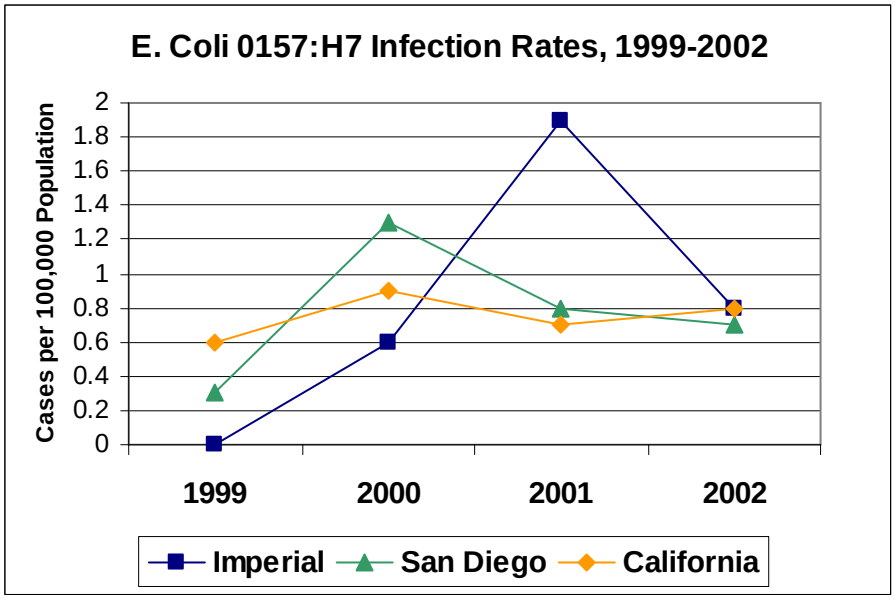
E. Coli 0157:H7 Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	0	**0**	1	**0.6**	3	**1.9**	1	**0.8**
San Diego	9	**0.3**	38	**1.3**	23	**0.8**	22	**0.7**
California	201	**0.6**	313	**0.9**	254	**0.7**	293	**0.8**
Healthy People 2010 Target		**1.0**		**1.0**		**1.0**		**1.0**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.5



Source: California Department of Health Services

Shigellosis

What is it?

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella* that is easily transmitted from person to person if good hygiene is not followed. Reported sources include salads, milk and dairy products, and contaminated water. Shigellosis symptoms include diarrhea (often bloody), fever, and stomach cramps. Shigellosis usually resolves in five to seven days. However, in some persons, especially young children and the elderly, the diarrhea can be so severe that the patient needs to be hospitalized (Partnership for Food Safety Education, 2003).

Why is it important?

Each year an estimated 18,000 cases of shigellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be significantly higher. Shigellosis is particularly common and causes recurrent problems in settings where hygiene is poor. Children, especially children aged two to four, are the most likely to get sick. Many cases are related to the spread of illness in child-care settings, and a large number of cases are spread in families with small children. In the developing world, shigellosis is far more common and is present in most communities (Centers for Disease Control and Prevention, 2002).

What is the status in the border region?

In 1999 and 2002, Imperial County had a shigellosis rate that was two to three times higher than that of San Diego County or California as a whole. The number of cases reported in Imperial County in 2002 more than doubled the number reported during each of the previous three years. In San Diego County, shigellosis rates increased significantly from 7.7 cases per 100,000 population in 1999 to 10.7 cases per 100,000 population in 2002. This is similar to the statewide trend. In 2002, San Diego County's rate (10.7) was significantly higher than California as a whole (7.7) (Table 7.7, Figure 7.6).

Table 7.7

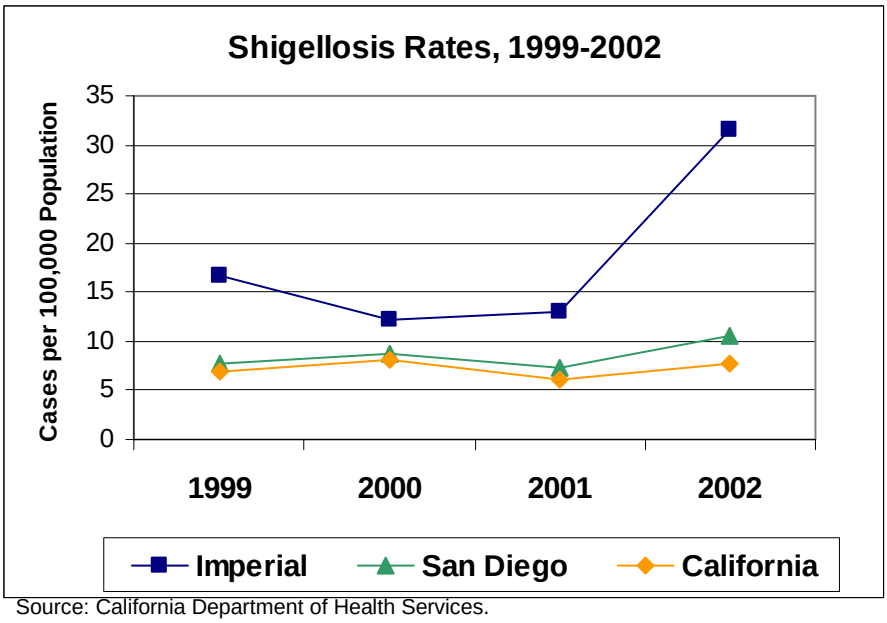
Shigellosis Cases and Rates, 1999-2002

	1999		2000		2001		2002	
Population	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Imperial	25	**16.6**	19	**12.3**	21	**13.0**	53	**31.6**
San Diego	221	**7.7**	258	**8.8**	221	**7.4**	327	**10.7**
California	2,364	**6.9**	2,853	**8.2**	2,149	**6.1**	2,742	**7.7**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.6



Source: California Department of Health Services.

Among all major racial/ethnic groups, Hispanics reported the highest shigellosis rates in Imperial County and San Diego County. In San Diego County, the shigellosis rates for Hispanics were more than two times the rates for non-Hispanic Whites. Shigellosis rates in Hispanics in both San Diego County and Imperial County increased more substantially between 1999 and 2002 than did the rates among non-Hispanic Whites in those counties during those same years (Table 7.8, Figure 7.7).

Table 7.8

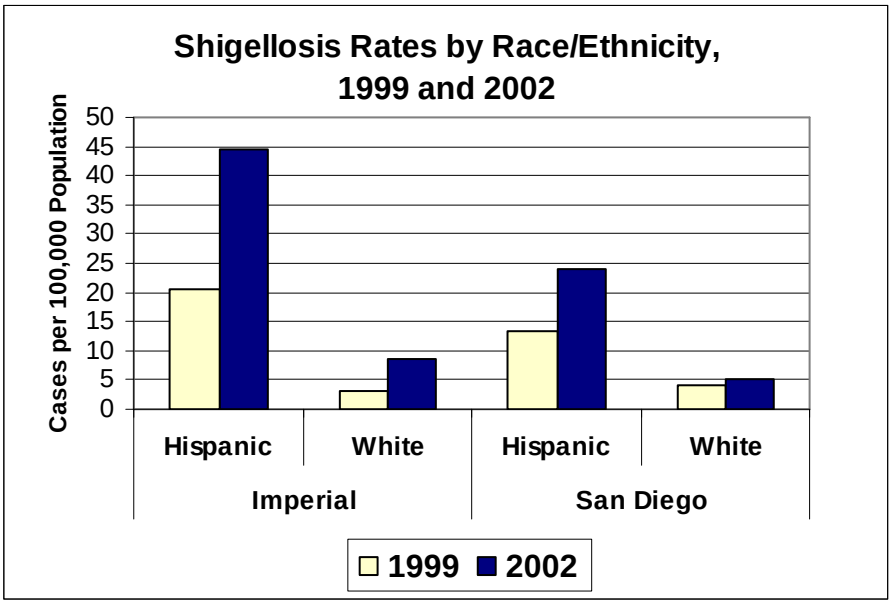
Shigellosis Cases and Rates by Race/Ethnicity, 1999 and 2002

Population		1999		2002	
		Cases	Rate*	Cases	Rate*
Imperial	**Hispanic**	22	**20.4**	54	**44.4**
	White	1	**3.0**	3	**8.5**
San Diego	**Hispanic**	95	**13.4**	191	**24.1**
	White	72	**4.2**	89	**5.0**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.7



Source: California Department of Health Services

Salmonellosis (Non-typhoid)

What is it?

Salmonellosis is an infection caused by the bacteria *Salmonella.* Salmonellosis is a common cause of death from foodborne illness. The most common sources of exposure to *salmonella* are raw and undercooked eggs, undercooked poultry and meat, dairy products, seafood, fruits, and vegetables. Salmonellosis symptoms include diarrhea, fever, and abdominal cramps. The illness usually lasts four to seven days, and most persons recover without treatment. However, in some persons the diarrhea may be so severe that the patient needs to be hospitalized (Partnership for Food Safety Education, 2003).

Why is it important?

Every year approximately 40,000 cases of salmonellosis are reported in the United States. In patients with severe diarrhea, the *salmonella* infection may spread from the intestines to the blood stream, and then to other body organs and can cause death unless the person is treated promptly with antibiotics. The elderly, infants, and those with impaired immune systems are more likely to have a severe illness (Centers for Disease Control and Prevention, 2005).

What is the status in the border region?

The salmonellosis rate in San Diego County increased significantly between 1999 (12.6 cases per 100,000 population) and 2002 (18.0 cases per 100,000). This trend was similar to that of California as a whole. Salmonellosis rates for Imperial County were based on a small number of cases and were, thus, more

variable. Imperial County's rate in 2002 was similar to San Diego County and statewide rates (Table 7.9, Figure 7.8). As of 2002, neither California nor the border counties had met the Healthy People 2010 objective of less than 6.8 salmonellosis cases per 100,000 population.

Table 7.9

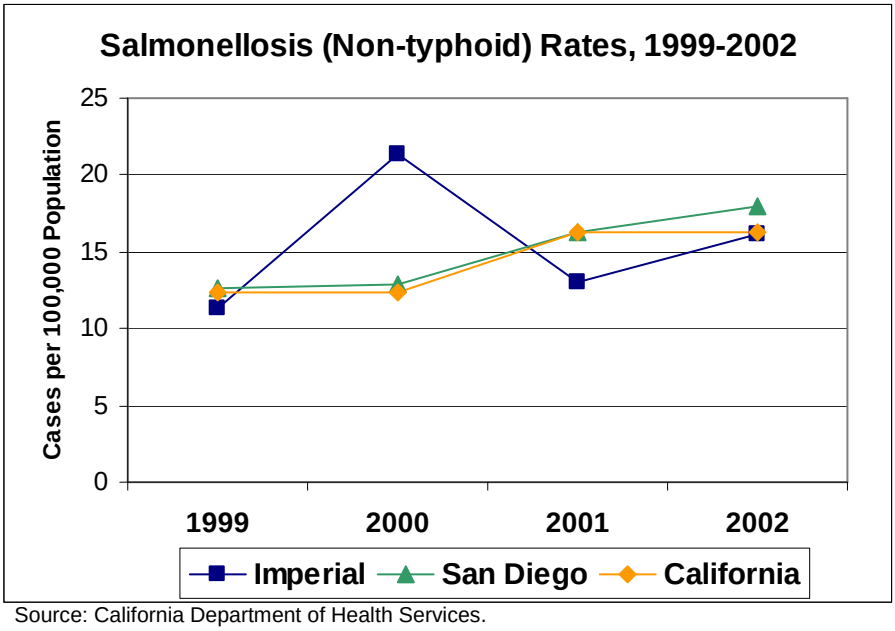
Salmonellosis (non-typhoid) Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	17	**11.3**	33	**21.4**	21	**13.0**	27	**16.1**
San Diego	364	**12.6**	381	**12.9**	491	**16.3**	553	**18.0**
California	4,208	**12.4**	4,300	**12.4**	5,747	**16.3**	5,848	**16.3**
Healthy People 2010 Target		**6.8**		**6.8**		**6.8**		**6.8**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Figure 7.8



Source: California Department of Health Services.

In San Diego County, salmonellosis rates for Hispanics were higher than rates for non-Hispanic Whites in 1999 and 2002, but the differences were not statistically significant. The percentage of Hispanics who reported salmonellosis is similar to the representation of Hispanics in Imperial County's overall population. In Imperial County, 74 percent of the salmonellosis cases occurred in Hispanics, a similar percentage to the proportion this ethnic group comprises of the county's population (72.2 percent) (Table 7.10).

Table 7.10

Salmonellosis Cases and Rates by Race/Ethnicity, 1999 and 2002

Population		1999		2002	
		Cases	Rate*	Cases	Rate*
Imperial	**Hispanic**	15	**13.9**	20	**16.5**
	White	2	**6.0**	5	**14.2**
San Diego	**Hispanic**	79	**11.1**	89	**11.2**
	White	163	**9.4**	155	**8.7**

* Rates were calculated per 100,000 residents

Source: California Department of Health Services

Cysticercosis

What is it?

Cysticercosis is an infection caused by the larval form of the pork tapeworm, *Taenia solium*. In humans, the more common form of infection occurs when one consumes undercooked pork containing cysticerci (cysts containing larvae of the tapeworm). The larvae develop into adults in the human bowel and the eggs are passed in the stool. Pigs ingest the eggs while feeding, which then go on to become cysticerci, and the cycle perpetuates. In some cases, humans ingest the eggs in contaminated food or water and develop the cysticerci (Sorvillo, 2004). Cysticerci can develop in muscle, brain, heart, bone, eye, and skin tissues (Richards, 1985).

Why is it important?

Neurocysticercosis is the most severe form of the disease and occurs when the larvae invade the brain and form cysticerci. Cysticercosis is recognized as an increasingly important cause of severe neurologic disease in the United States (Sorvillo, 2004). The disease is also highly endemic in many developing countries, including Mexico.

What is the status in the border region?

Imperial County reported only one cysticercosis case during 1999-2002. San Diego County reported 22 cases in the same four-year period, an average of 5.5 cases per year. Statewide, California reported an average of approximately 80 cases per year during the same period. Of all cysticercosis cases reported in California during 1999-2000, 78.3 percent were in Hispanics, compared to 4.3 percent in non-Hispanic Whites. It is important to note that 17.4 percent of the cases reported no information on race/ethnicity (Table 7.11).

Table 7.11

Cysticercosis Cases and Rates, 1999-2002

Population	1999		2000		2001		2002	
	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Imperial	1	**0.7**	0	**0.0**	0	**0.0**	0	**0.0**
San Diego	5	**0.2**	5	**0.2**	6	**0.2**	6	**0.2**
California	77	**0.2**	77	**0.2**	86	**0.2**	82	**0.2**

* Rates were calculated per 100,000 residents

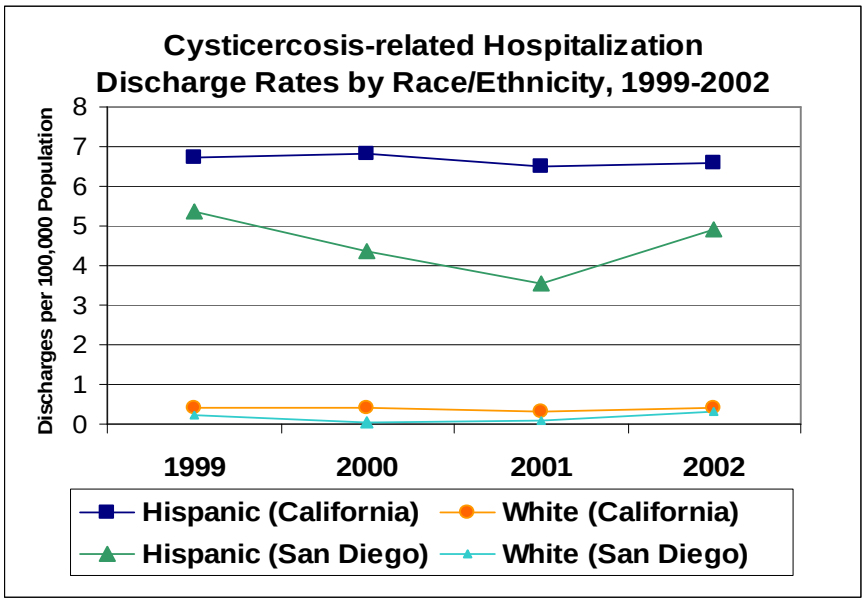
Source: California Department of Health Services

Cysticercosis-related Hospital Discharges

In California, there was an average of 830 cysticercosis-related hospital discharges per year during 1999-2002. Although a patient can be hospitalized several times during a year and, thus, account for several discharges, the number of discharges is more than ten times the number of cysticercosis cases reported statewide during the same period. This suggests that the disease is underreported.

During 1999-2002, Hispanics in San Diego County and throughout California had the highest discharge rates among all racial/ethnic groups (3.5 to 6.8 discharges per 100,000 population), with rates more than ten times higher than those seen in non-Hispanic Whites (0.1 to 0.4 discharges per 100,000 population) (Figure 7.9, Table 7.12).

Figure 7.9



Source: California Office of Statewide Health Planning and Development

Table 7.12

Cysticercosis Hospitalization Discharge Rates* by Race/Ethnicity, 1999-2002

Population		1999	2000	2001	2002
San Diego	**Hispanic**	5.4	4.3	3.5	4.9
	White	0.2	0.1	0.1	0.3
California	**Hispanic**	6.7	6.8	6.5	6.6
	White	0.4	0.4	0.3	0.4

* Hospitalization discharge rates were calculated per 100,000 residents

Source: California Office of Statewide Health Planning and Development

Deaths Due to Cysticercosis

A study of cysticercosis disease in California identified 124 deaths in the 12-year period from 1989-2000. This represents an average of 10.3 deaths per year, which corresponds to a crude 12-year death rate of 3.9 deaths per one million people. Hispanic residents accounted for 92.7 percent of these deaths. Most case-patients (86 percent) were born outside the United States; of those, 72.6 percent were from Mexico. Almost twice as many deaths from cysticercosis were in males than in females (82 versus 42 deaths). Almost half of those who died were 15 to 34 years of age (Sorvillo, 2004).

Cysticercosis in Mexico

Cysticercosis is highly endemic in Mexico. The prevalence of the disease in humans is as high as 13 percent in remote areas where pigs are raised in semi-confinement (de Aluja, 2000). Reports published in Mexico show cerebral cysticercosis to be the cause of 9 percent of neurology admissions, 11 percent to 30 percent of brain surgeries for tumors, and 2.8 percent to 3.6 percent of all autopsies (Richards, 1985).

Binational Food Safety Issues

- The U.S. and Mexico border states make up an area that is heavily influenced by both U.S. and Mexican culture. As such, this area has unique characteristics in terms of the foods that are available and the methods used to prepare them. Thousands of people travel between the two countries and eat a variety of foods with no adverse health consequences. A large quantity of food products are exported from one country to the other to the benefit of all residents. There are rarely problems associated with foods that are imported from one country to the other.

- There are issues related to food safety of binational importance. Cross-border foodborne disease outbreaks occasionally are reported in California and other parts of the United States. For example, one recurrent food safety issue involves Mexican-style soft cheese (queso fresco) made with unpasteurized milk or in unsanitary conditions. There have been incidences where this

cheese has been shown to be contaminated with listeria, E. coli, and other infectious agents which can cause severe illness. Occasional outbreaks have also been associated with produce imported from Mexico and other countries. Most recently, green onions (scallions) were linked to outbreaks of hepatitis A in the United States (U.S. FDA, 2003).

SECTION EIGHT

INJURY PREVENTION

Unintentional Injuries

What is it?

In California, as well as San Diego County and Imperial County, the major causes of unintentional injury deaths for all ages are motor vehicle accidents (37.3 percent), poisoning (21.4 percent), falls (14.2 percent), and drowning/submersion (4.4 percent) (Wilson, 2002). Many of these injuries are preventable.

Why is it important?

Unintentional injuries are the leading cause of death in children and young adults ages 1 to 34 years. Injury rates are greatest among males and children of low socioeconomic status (National Center for Injury Prevention and Control).

What is the status in the border region?

Every day in San Diego County, approximately 105 people are injured seriously enough to require emergency medical attention. In 1999-2000, the primary cause of unintentional injuries among the non-Hispanic White population in San Diego County was falls (491 injuries per 100,000 population) and motor vehicle occupant injuries (333 injuries per 100,000 population). San Diego County's Hispanic population reported a greater number of motor vehicle occupant injuries (386 per 100,000), followed by falls (194 per 100,000 population). All of the top three cause-specific injury rates (falls, motor vehicle occupant, and pedestrian injuries) were lower for Hispanics than for non-Hispanic Whites. Hispanics reported a higher rate of motor vehicle occupant injuries than did non-Hispanic Whites (69.9 per 100,000 population versus 46.2 per 100,000, respectively, in 1999-2000) (Bowen, 2002).

Imperial County reported more than 800 hospitalizations for unintentional injuries in 1999 *(*Imperial County Healthcare Information*,* 2001*).*

Childhood Unintentional Injury Deaths

From 1999-2001, the average number of unintentional injury deaths among children ages 0 to 4 years in Imperial County and San Diego County was 13.3 and 5.3 per 100,000 population, respectively.

The age-specific rates for unintentional injury deaths among Hispanic children in California were not significantly different than the rates for the overall population (Table 8.1, Figure 8.1).

Table 8.1

Child Mortality Rates due to Unintentional Injuries by Race/Ethnicity, Ages 0-4 years, 1999-2001

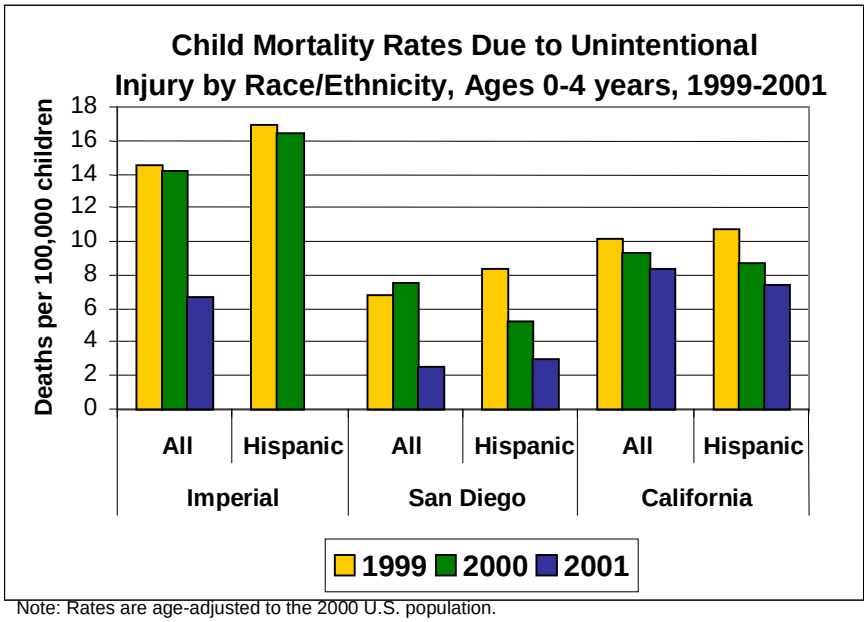
Population	1999			2000			2001		
	Deaths	Rate*	(95% CI)**	Deaths	Rate*	(95% CI)**	Deaths	Rate*	(95% CI)**
Imperial									
All	2	**14.6**	(1.8 - 52.9)	2	**14.2**	(1.7 - 51.3)	1	**6.7**	(0.2 - 37.3)
Hispanic	2	**16.9**	(20.0 - 61.0)	2	**16.4**	(2.0 - 59.2)	0	**0.0**	0.0
San Diego									
All	16	**6.8**	(3.9 - 11.0)	18	**7.5**	(4.4 - 11.9)	6	**2.5**	(0.9 - 5.4)
Hispanic	8	**8.4**	(3.6 - 16.6)	5	**5.2**	(1.7 - 12.1)	3	**3.0**	(0.6 - 8.8)
California									
All	279	**10.1**	(8.9 - 11.2)	259	**9.3**	(8.2 - 10.4)	234	**8.3**	(7.3 - 9.4)
Hispanic	140	**10.7**	(8.9 - 12.5)	115	**8.7**	(7.1 - 10.3)	100	**7.4**	(6.0 - 8.9)

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Figure 8.1



Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Unintentional Injury Deaths, All Ages

Imperial County's age-adjusted death rate for unintentional injuries during 1999-2001 (38.3 deaths per 100,000 population) was significantly higher than the rates for San Diego County (24.6 deaths per 100,000 population) and statewide (27.2 deaths per 100,000) during the same period.

Neither county nor the state as a whole met the Healthy People 2010 national objective of reducing the number of deaths due to unintentional injuries to an age-adjusted rate of no more than 17.5 deaths per 100,000 population (Table 8.2, Figure 8.2).

Table 8.2

Deaths Due to Unintentional Injuries, All Ages, 1999-2001

Population	Deaths*	Rate**	(95% CI***)
Imperial	69	**38.3**	(29.8-48.5)
San Diego	733	**26.5**	(24.6-28.5)
California	9,009	**27.2**	(26.6-27.7)
Healthy People 2010 target		**17.5**	

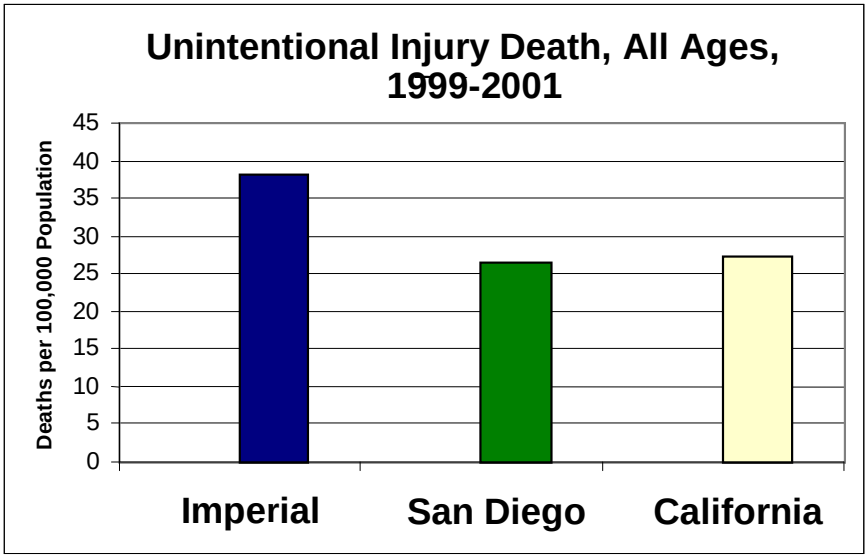
* Average number of deaths per year for 1999-2001

** Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

*** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: http://www.applications.dhs.ca.gov/vsq/default.asp

Figure 8.2



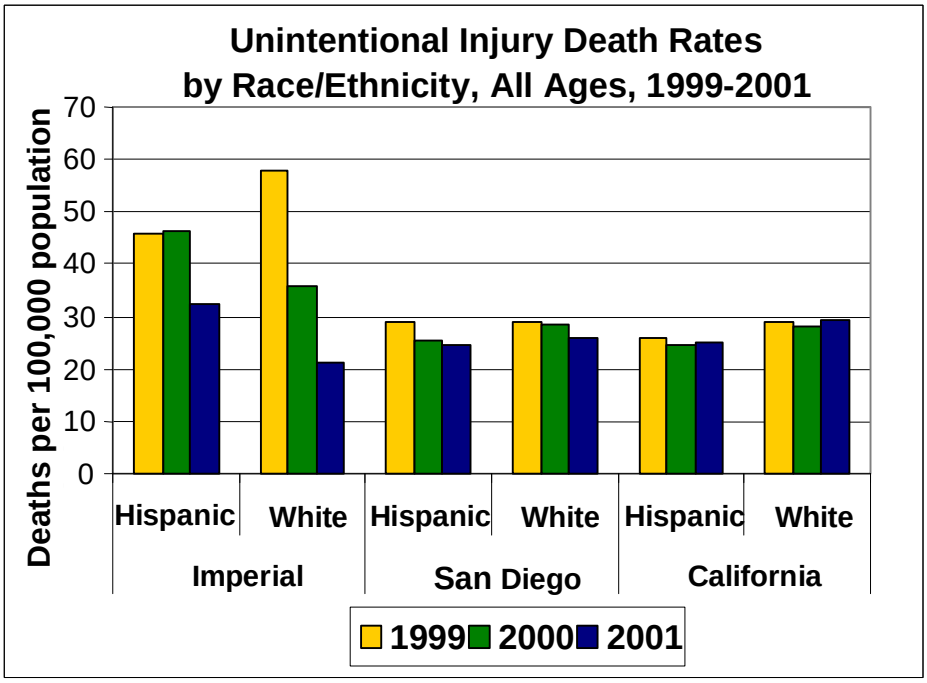
Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

The age-adjusted death rate for unintentional injuries among Hispanics was not significantly different than the rate in the non-Hispanic White population in either San Diego County or Imperial County during 1999-2001 (Figure 8.3).

In 1999-2000, the greatest cause of unintentional injury deaths for Hispanics in San Diego County was motor vehicle occupant injuries, which affected 7.6 people per 100,000 population. Among the non-Hispanic White population in San Diego County, the rate was 5.8 deaths per 100,000 population. The primary cause of death due to injuries in non-Hispanic Whites was from falls, affecting 7.4 people per 100,000 population, compared to 2.5 deaths per 100,000 population among Hispanics.

Figure 8.3



Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Motor Vehicle Crash Deaths

What is it?

Motor vehicle crashes are the leading cause of death among persons aged 5 to 29 years in the United States. More than one-third of deaths occur in alcohol-related crashes.

Why is it important?

Deaths and injuries caused by motor vehicle crashes can be reduced by using seat belts, limiting drivers' alcohol consumption, and improving the quality of roads (DHHS, 2001; U.S.-Mexico Border Health Commission, 2003).

What is the status in the border region?

Imperial County has one of the highest death rates due to motor vehicle crashes, while San Diego County reported among the lowest death rates of all border counties in the United States (U.S.-Mexico Border Health Commission, 2003).

Table 8.3

Deaths Due to Motor Vehicle Crash by Race/Ethnicity, 1999-2001

Population	1999			2000			2001		
	Deaths	Rate*	(95% CI)**	Deaths	Rate*	(95%CI)**	Deaths	Rate*	(95%CI)**
Imperial									
All	24	**18.3**	(11.7 - 27.2)	18	**13.4**	(7.9 - 21.2)	15	**10.6**	(5.9 - 17.5)
Hispanic	14	**15.5**	(8.5 - 26.0)	12	**12.9**	(6.7 - 22.5)	12	**15.4**	(8.0 - 26.9)
San Diego									
All	237	**8.5**	(7.4 - 9.6)	218	**7.7**	(6.6 - 8.7)	294	**10.1**	(9.0 - 11.3)
Hispanic	67	**10.7**	(8.3 - 13.6)	53	**8.7**	(6.5 - 11.4)	75	**11.3**	(8.9 - 14.2)
California									
All	3,134	**9.7**	(9.4 - 10.1)	3,283	**10.0**	(9.7 - 10.4)	3,971	**11.9**	(11.5 - 12.3)
Hispanic	1,043	**11.6**	(10.8 - 12.4)	1,037	**11.2**	(10.5 - 12.0)	1,276	**13.5**	(12.7 - 14.3)
Healthy People 2010 Target		**9.2**			**9.2**			**9.2**	

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

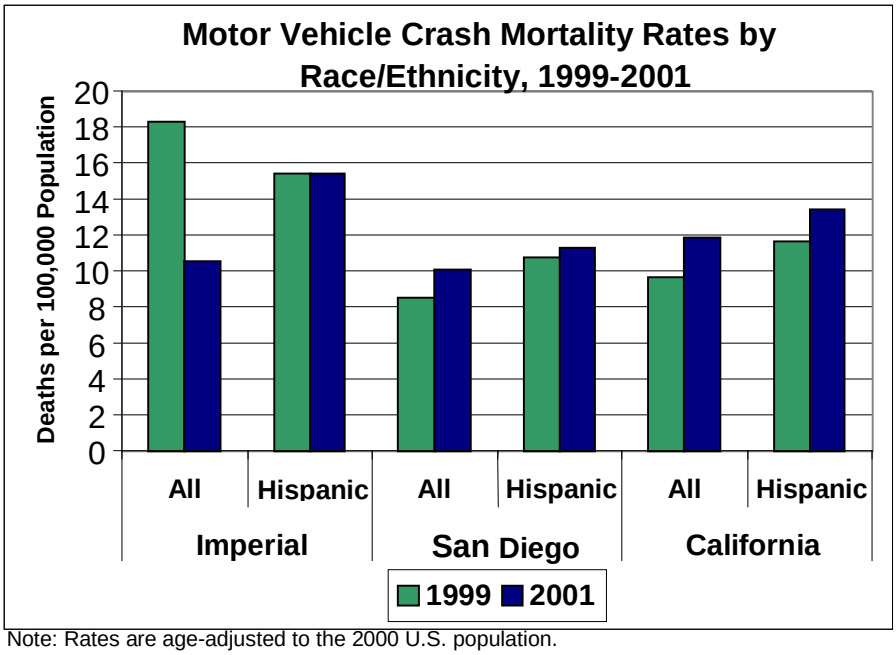
** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

In 1999-2001, the age-adjusted motor vehicle crash death rate in San Diego County was significantly lower than the statewide rate. In 1999, the only year with reliable rates for Imperial County, the age-adjusted death rate (18.3 deaths per 100,000 population) was significantly higher than the rates in San Diego County (8.5 deaths per 100,000 population) and statewide (9.7 deaths per 100,000 population) (Table 8.3, Figure 8.4).

During 1999-2001, the age-adjusted death rate for motor vehicle crashes among Hispanics in California was significantly higher than the rate for the overall population. In San Diego County, death rates for Hispanics were higher than the overall population rates each of those years, but the difference was not statistically significant. Death rates for Hispanics in Imperial County were based on a small number of deaths and, thus, unreliable. As of 2001, neither border county nor California as a whole met the Healthy People 2010 objective of no more than 9.2 deaths per 100,000 population.

Figure 8.4



Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Alcohol-Related Motor Vehicle Crash Deaths

Deaths and injuries in alcohol-related motor vehicle crashes continue to be an important public health problem in the United States. Alcohol use has been associated with almost half of all motor vehicle crashes and with 41 percent of motor vehicle deaths (Centers for Disease Control and Prevention; National Center for Injury Prevention and Control, 2004). However, important successes have been achieved in reducing death and injury rates in the United States over the past two decades, even among persons aged 15 to 24 years, one of the groups most affected by alcohol related motor vehicle crashes (DHHS, 2001).

Table 8.4

Alcohol-related Motor Vehicle Crash Mortality, 1999-2001

Population	1999			2000			2001		
	Deaths	Rate*	(95%CI)**	Deaths	Rate*	(95%CI)**	Deaths	Rate*	(95%CI)**
Imperial	11	**7.3**	(3.6 -13.1)	11	**7.1**	(3.5 - 12.7)	7	**4.3**	(1.7 - 8.9)
San Diego	112	**3.9**	(3.2 - 4.6)	83	**2.8**	(2.2 - 3.5)	122	**4.1**	(3.4 - 4.8)
California	1,170	**3.4**	(3.2 - 3.6)	1,253	**3.6**	(3.4 - 3.8)	1,308	**3.7**	(3.5 - 3.9)
Healthy People 2010 Target		**4.0**			**4.0**			**4.0**	

* Rates were calculated per 100,000 residents

** CI = Confidence Interval, a measure of statistical uncertainty.

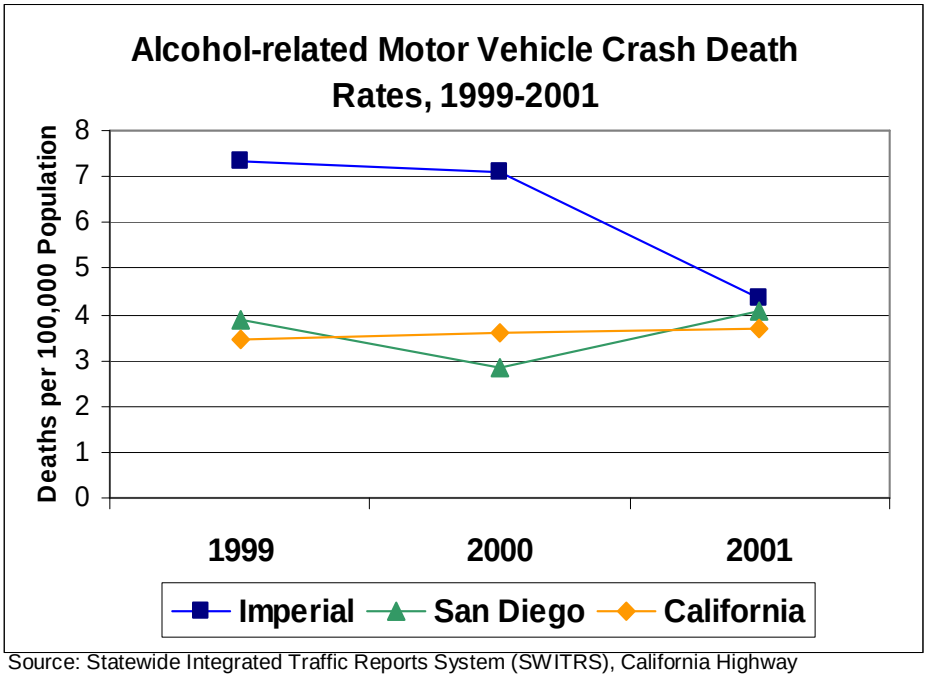
Source: Statewide Integrated Traffic Reports System (SWITRS), California Highway Patrol, 2001

In this section, only crude rates are presented. Information provided by the Statewide Integrated Traffic Reports System (SWITRS) did not allow calculations of age-adjusted rates, as was done for all other mortality indicators in this report.

From 1999-2001, there were no significant changes in crude death rates in either county or statewide (Table 8.4, Figure 8.5). The crude death rates in San Diego County and California – the only jurisdictions with reliable rates – were not significantly different. The Healthy People 2010 target is to reduce deaths caused by alcohol-related motor vehicle crashes to four per 100,000 population.

Although the crude death rates in Imperial County tended to be higher than in San Diego County or statewide, those rates were based on a small number of deaths and are not considered reliable. The average number of deaths in Imperial County decreased from 13.5 deaths during 1996-1998 to 9.7 in 1999-2001 (Statewide Integrated Traffic Reports System, 2001).

Figure 8.5



Source: Statewide Integrated Traffic Reports System (SWITRS), California Highway Patrol, 2001

SECTION NINE

MATERNAL, CHILD, AND ADOLESCENT HEALTH

Maternal, infant, and child health is considered an index of overall health within a community. The health of mothers, infants, and children is of critical importance, both as a reflection of the current health status of a large segment of the U.S. population and as a predictor of the health of the next generation (DHHS, 2001*).*

Fertility Rate

What is it?

The fertility rate is the number of births to women in their childbearing years, 15-44 years of age.

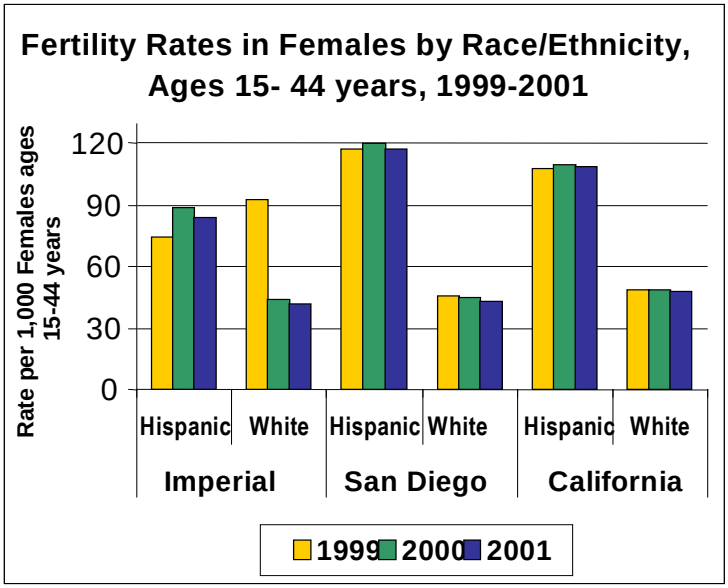
Why is it important?

The fertility rate is a good indicator of childbearing patterns because it takes into consideration the age and gender structure of the population (County of San Diego Health Status Report, 2000).

What is the status in the border region?

In 1999-2001, the fertility rate in females aged 15 to 44 remained constant in the border counties, as well as throughout the state. In 2001, Imperial County's fertility rate was 76 births per 1,000 women aged 15-44, which was higher than that of California as a whole (71 per 1,000 women aged 15-44) and San Diego County (66 per 1,000 women 15-44). In general, Hispanic women had a greater fertility rate compared to their non-Hispanic White counterparts (Figure 9.1).

Figure 9.1



Source: California Department of Health Services - Vital Statistics Query System

Low Birth Weight

What is it?

Low birth weight is defined as a newborn weighing less than 2,500 grams (5.5 pounds).

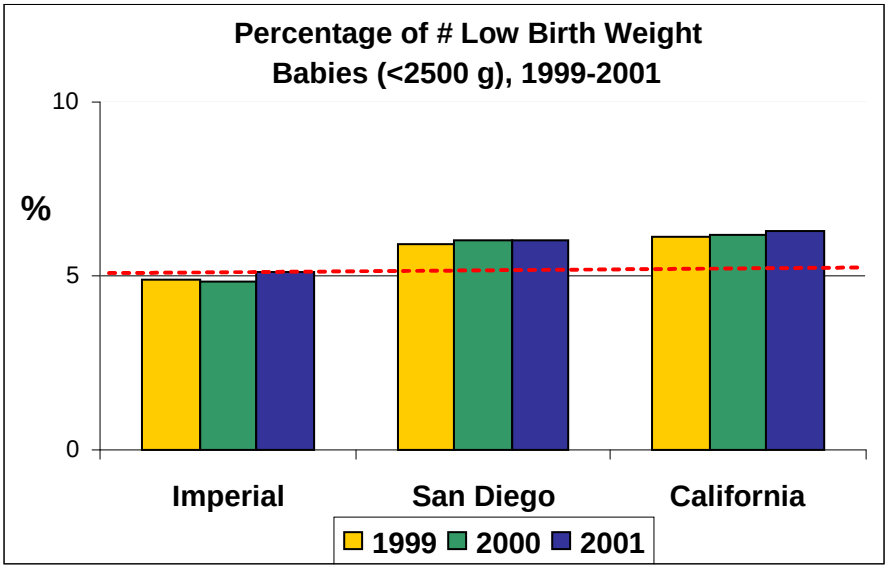
Why is it important?

Low birth weight is a major contributing factor to perinatal and childhood morbidity and mortality, as well as a risk factor for adult diseases. The leading factor associated with low birth weight in both developed and developing populations is the underlying socioeconomic conditions (Pan American Health Organization). Low birth weight is a heterogeneous condition composed of babies born too soon (preterm delivery less than 37 weeks of gestation), or on time but with intrauterine growth retardation, or both. It is important to monitor the incidence of low birth weight and implement effective interventions to prevent it.

What is the status in the border region?

The Healthy People 2010 target is to reduce low birth weight babies to five percent of all live births. In 2001, 5.1 percent of newborns in Imperial County, 6.0 percent in San Diego County, and 6.3 percent statewide were considered to be low birth weight (Figure 9.2). There were no significant differences in the percent of low birth weight babies born to different racial/ethnic groups during 1999-2001.

Figure 9.2



Source: California Department of Health Services- Vital Statistics Query System
Note: Red dashed line indicates Healthy People 2010 Objective of reduction of low birth weight babies to 5 percent of total live births.

Infant Mortality

What is it?

Infant death is a critical indicator of the health of a population. It reflects the overall state of maternal health, as well as the quality and accessibility of primary health care services available to pregnant women and infants.

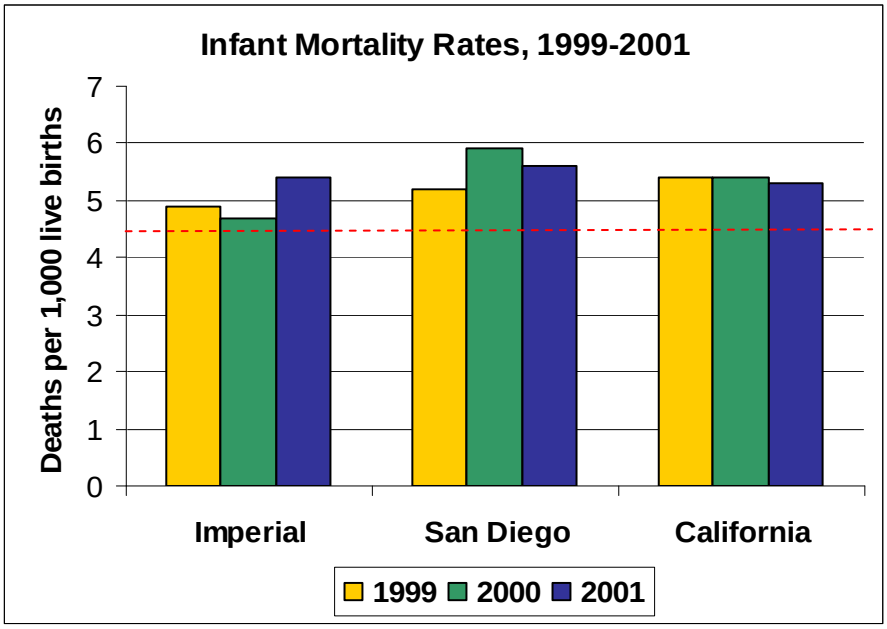
Why is it important?

Despite steady declines in the 1980s and 1990s, the rate of infant mortality in the United States remains among the highest in the industrialized world (National Center for Health Statistics, 1999; DHHS, 1999).

What is the status in the border region?

There were no significant differences in infant mortality rates between Imperial County and San Diego County and California as a whole, across regions or across time periods. During 1999-2001, infant mortality rates ranged from 4.9 deaths per 1,000 live births in Imperial County in 1999 to 5.9 deaths per 1,000 live births in San Diego County in 2000 (Figure 9.3, Table 9.1). The Healthy People 2010 objective is to reduce the infant mortality rate to 4.5 deaths per 1,000 live births. None of the three jurisdictions, Imperial County, San Diego County, or the State of California, has achieved this objective.

Figure 9.3



Source: California Department of Health Services- Vital Statistics Query System
Note: Red dashed line indicates Healthy People 2010 Objective: 4.5 deaths per 1,000 live births

Table 9.1

Infant Mortality by Race/Ethnicity, 1999-2001

Population		1999			2000			2001		
		Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)
Imperial	**All**	12	**4.9**	(2.5 - 8.6)	12	**4.7**	(2.4 - 8.2)	14	**5.4**	(3.0 - 9.1)
	Hispanic	11	**5.9**	(2.9 - 10.6)	11	**4.9**		11	**4.8**	(2.4 - 8.6)
	White	0	**0.0**		0	**0.0**		3	**11.6**	(2.4 - 33.9)
San Diego	**All**	225	**4.9**	(2.5 - 8.6)	263	**5.9**	(5.2 - 6.6)	246	**5.6**	(4.9 - 6.3)
	Hispanic	92	**5.0**	(4.0 - 6.1)	110	**5.7**		93	**4.8**	(3.9 - 5.9)
	White	92	**5.2**	(4.2 - 6.4)	85	**4.9**		86	**5.0**	(4.0 - 6.2)
California	**All**	2,787	**5.4**	(5.2 - 5.6)	2,884	**5.4**	(5.2 - 5.6)	2,815	**5.3**	(5.1 - 5.5)
	Hispanic	1,297	**5.2**	(4.9 - 5.5)	1,357	**5.3**		1,313	**5.0**	(4.7 - 5.3)
	White	826	**4.7**	(4.4 - 5.0)	843	**4.8**		839	**4.9**	(4.6 - 5.2)

* Note: Based on total deaths of all causes in <1year olds, rates per 1,000 live births

** Note: CI=Confidence Interval, a measure of statistical uncertainty

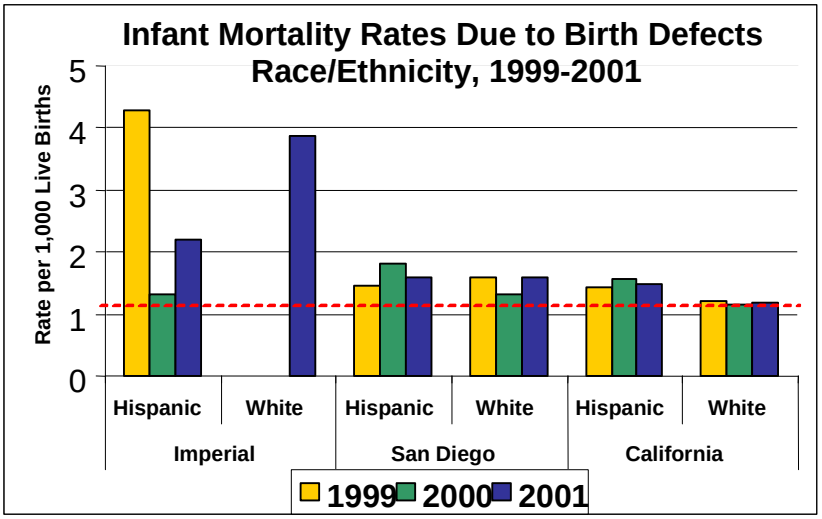
Source: California Department of Health Services- Vital Statistics Query System

There were no significant differences in infant mortality rates by race/ethnicity between the two counties and the state as a whole during 1999-2001. The number of infant deaths in Imperial County is relatively small, which makes the calculated rates unreliable (Table 9.1).

Infant Mortality due to Birth Defects

Birth defects are abnormalities of structure, function, or body metabolism present at birth. Such defects may result in physical or mental disability or death. They are the leading cause of infant mortality and childhood disability (California Birth Defects Monitoring Program). The Healthy People 2010 objective is to reduce the infant mortality rate due to birth defects to 1.1 per 1,000 live births. San Diego County and California as a whole were close to the targeted rate (Figure 9.4, Table 9.2).

Figure 9.4



Source: California Department of Health Services, Vital Statistics Query System
Note: Red line indicates HP 2010 objective: 1.1 deaths due to birth defects/1,000 live births

In 1999, San Diego County reported 63 deaths due to birth defects, of which 27 were Hispanics (rate: 1.5 per 1,000 live births). In 2001, 31 out of 71 deaths due to birth defects were Hispanics (rate: 1.6 per 1,000 live births). The number of deaths is very small in Imperial County, making the calculated rates unreliable. Statewide, the rate of deaths due to birth defects in Hispanics was 1.5 per 1,000 live births, compared to 1.2 per 1,000 live births in non-Hispanic Whites (Table 9.2).

Table 9.2

Infant Mortality Due to Birth Defects, 1999-2001

Population		1999			2000			2001		
		Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)	Deaths	Rate*	(95% CI**)
Imperial	All	8	**3.3**	(1.4 - 6.4)	3	**1.2**	(0.2 - 2.9)	6	**2.3**	(0.8 - 5.0)
	Hispanic	8	**4.3**	(1.9 - 8.5)	3	**1.3**	(0.2 - 3.5)	5	**2.2**	(0.7 - 5.1)
	White	0	**0.0**	N/A	0	**0.0**	N/A	1	**3.9**	(0.1 - 21.7)
San Diego	All	63	**1.5**	(1.1 - 1.9)	69	**1.6**	(1.1 - 1.8)	71	**1.6**	(1.3 - 2.0)
	Hispanic	27	**1.5**	(1.0 - 2.2)	35	**1.8**	(1.3 - 2.5)	31	**1.6**	(1.1 - 2.3)
	White	28	**1.6**	(1.1 - 2.3)	23	**1.3**	(0.7 - 1.7)	27	**1.6**	(1.1 - 2.3)
California	All	676	**1.3**	(1.2 - 1.4)	741	**1.4**	(1.2 - 1.4)	712	**1.4**	(1.3 - 1.4)
	Hispanic	356	**1.4**	(1.3 - 1.5)	406	**1.6**	(1.4 - 1.6)	385	**1.5**	(1.4 - 1.6)
	White	212	**1.2**	(1.0 - 1.4)	202	**1.2**	(0.9 - 1.3)	201	**1.2**	(1.0 - 1.4)

* Note: Based on total deaths due to birth defects in <1year olds, rates per 1,000 live births

** Note: CI=Confidence Interval, a measure of statistical uncertainty

Source: California Department of Health Services- Vital Statistics Query System

Prenatal Care

What is it?

Prenatal care refers to health care provided to women during pregnancy and includes three major components: risk assessment, treatment for medical conditions or risk reduction, and education. Each component can contribute to reductions in perinatal illness, disability, and death by identifying and mitigating potential risks and helping women to address behavioral factors that contribute to poor health outcomes. Prenatal care is more likely to be effective if women begin receiving care early in pregnancy (DHHS, 2001).

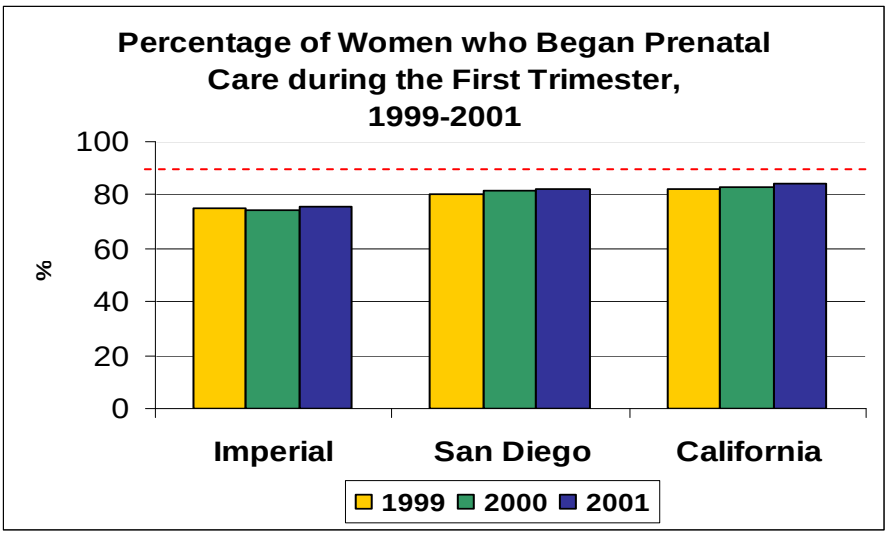
Why is it important?

Timely, high quality prenatal care can help prevent medical problems for mothers and infants. Inadequate prenatal care has been associated with increased risks of low birth weight babies, premature births, neonatal and infant deaths, and maternal deaths.

What is the status in the border region?

The Healthy People 2010 objective is to increase the proportion of women beginning prenatal care in the first trimester to 90 percent. Neither Imperial and San Diego County nor California has met this objective (Figure 9.5, Table 9.3).

Figure 9.5



Source: California Department of Health Services- Vital Statistics Query System
Note: Red dashed line indicates Healthy People 2010 Objective 90 percent of women should receive prenatal care during the first trimester.

Table 9.3

Births in which Prenatal Care Began in the First Trimester, 1999-2001

Population		1999			2000			2001		
		Births	%*	(95% CI**)	Births	%*	(95% CI**)	Births	%*	(95% CI**)
Imperial	**All**	1,854	**75.2**	(73.5-76.9)	1,915	**74.5**	(72.8-76.1)	1,959	**75.4**	(73.7-77.0)
	Hispanic	1,384	**74.0**	(72.0-75.9)	1,653	**73.2**	(71.3-75.0)	1,700	**74.7**	(72.9-76.4)
	White	425	**79.6**	(76.0-82.8)	222	**86.7**	(82.0-90.3)	219	**84.9**	(80.0-88.8)
San Diego	**All**	34,730	**80.3**	(79.9-80.7)	36,085	**81.5**	(81.1-81.9)	36,120	**82.5**	(82.1-82.9)
	Hispanic	13,394	**72.8**	(72.2-73.4)	14,392	**74.4**	(73.8-75.0)	14,871	**76.8**	(76.2-77.4)
	White	15,480	**88.3**	(87.8-88.8)	15,570	**89.3**	(88.8-89.8)	15,131	**88.8**	(88.3-89.3)
California	**All**	426,020	**82.2**	(82.1-82.3)	441,712	**83.1**	(83.0-83.2)	442,937	**84.0**	(83.9-84.1)
	Hispanic	195,020	**78.2**	(78.0-78.4)	204,435	**79.3**	(79.1-79.5)	210,770	**80.8**	(80.6-81.0)
	White	153,999	**87.9**	(87.7-88.1)	154,706	**88.7**	(88.6-88.8)	151,405	**88.9**	(88.7-89.0)

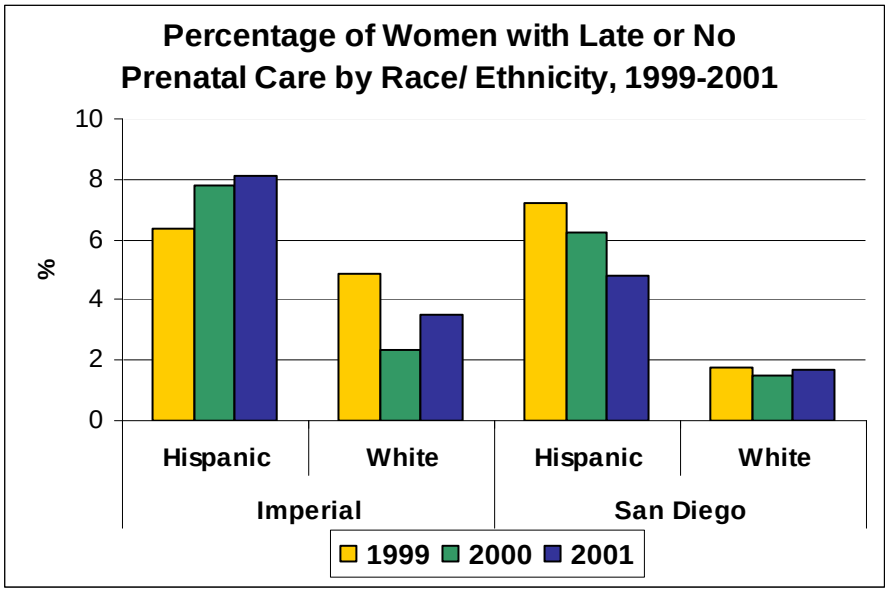
* Note Percent based on number of births where prenatal care was begun in the first trimester out of total number of births (or total births by race/ethnic group respectively)

** Note CI=Confidence Interval, a measure of statistical uncertainty

Source: California Department of Health Services- Vital Statistics Query System

During 1999-2001, Hispanic women in both Imperial County and San Diego County represented the largest proportion of mothers who had initiated prenatal care late (in the third trimester) or not at all (Figure 9.6).

Figure 9.6



Source: California Department of Health Services- Vital Statistics Query System

Teen Pregnancy

What is it?

The teen birth rate is defined as the number of live births to mothers who are 19 years of age or younger per 1,000 female population in that age group. This report focuses on births to mothers aged 15-17, who are considered to be at high risk for health and social consequences of teen pregnancy (Olivia, 2001).

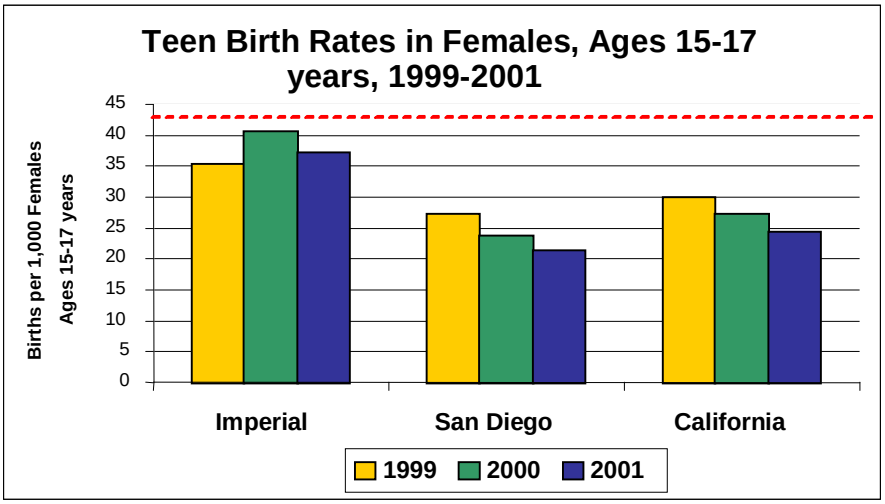
Why is it important?

The teenage pregnancy rate in the United States is higher than in many other developed countries. Teenage pregnancy remains an intense national issue, especially within the context of public health and welfare reform concerning the optimum potential of the nation's youth and the growth and development of newborns. Mortality rates are highest for infants born to mothers younger than 16 years of age and those older than 44 years (DHHS, 2001).

What is the status in the border region?

Although the Healthy People 2010 objective refers to the reduction of pregnancies among adolescent females to 43 pregnancies per 1,000 females aged 15-17, that information is not regularly collected. As a proxy, information on births among teenagers is presented (CDHS, 2000).

Figure 9.7



Source: California Department of Health Services- Vital Statistics Query System
Note: Red dashed line indicates Healthy People 2010 Objective of reducing the number of pregnancies in women aged 15-17 years to 43 per 1,000 live births.

Imperial County reported the highest rate of teenage births in 2001 (37.2 per 1,000 females aged 15-17) compared to both San Diego County (21.4 per 1,000 females aged 15-17) and California (24.4 per 1,000 females aged 15-17) (Figure 9.7, Table 9.4).

Table 9.4

Teen Births in Females, Ages 15-17 years, 1999-2001

Population		1999			2000			2001		
		Births	Rate*	(95% CI**)	Births	Rate*	(95% CI**)	Births	Rate*	(95% CI**)
Imperial	**All**	133	**35.3**	(29.3 - 41.3)	155	**40.8**	(34.4 - 47.3)	144	**37.2**	(31.1 - 43.2)
	Hispanic	112	**36.8**	(30.0 - 43.7)	143	**47.3**	(39.6 - 55.1)	134	**24.7**	(20.5 - 28.9)
	White	19	**34.1**	(20.5 - 53.3)	10	**16.7**	(8.0 - 30.7)	7	**10.8**	(4.3 - 22.1)
San Diego	**All**	1,461	**27.4**	(25.9 - 28.8)	1321	**23.8**	(22.5 - 25.1)	1223	**21.4**	(20.2 - 22.6)
	Hispanic	972	**61.4**	(57.5 - 65.2)	961	**58.2**	(54.5 - 61.9)	909	**53.4**	(50.0 - 56.9)
	White	243	**8.7**	(7.6 - 9.8)	183	**6.3**	(5.4 - 7.2)	169	**5.7**	(4.8 - 6.6)
California	**All**	20,209	**30.1**	(29.7 - 30.5)	18887	**27.2**	(26.9 - 27.6)	17307	**24.4**	(24.0 - 24.7)
	Hispanic	14,042	**58.7**	(57.7 - 59.7)	13472	**54.4**	(53.5 - 55.3)	12525	**49.1**	(48.2 - 49.9)
	White	3,242	**11.0**	(10.6 - 11.3)	2841	**9.3**	(9.0 - 9.7)	2483	**8.0**	(7.7 - 8.3)

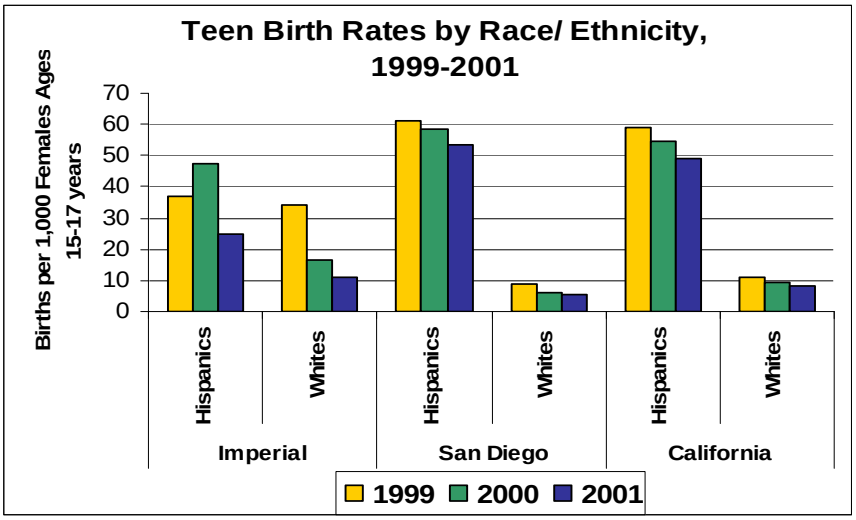
* Note: Rate calculated per 1,000 females in the 15-17 year age group

** Note: CI=Confidence Interval, a measure of statistical uncertainty

Source: California Department of Health Services- Vital Statistics Query System

During 1999-2001, there was a decrease in teen birth rates among Hispanics. The greatest decline (12.1 percent) was reported in Imperial County, followed by California as a whole (9.6 percent), and San Diego County (8 percent). The teen birth rate among non-Hispanic White females aged 15-17 in Imperial County declined from 1999 to 2001 (23.3 percent), more than in either San Diego County or California as a whole (Figure 9.8).

Figure 9.8



Source: California Department of Health Services, Vital Statistics Query System

What is being done?

Overall, teenage pregnancy rates have fallen steeply in recent years. There have been a number of factors that are believed to account for these recent declines, including the steady reduction in the proportion of teenagers who are sexually experienced or who have multiple partners, and an increase in condom use (Brener N et al, 2001; Centers for Disease Control and Prevention, MMWR, 2001). Also, many organizations have directed teenagers' attention to the importance of pregnancy prevention through abstinence and responsible behavior (Centers for Disease Control and Prevention, National Vital Statistics Reports, 2003).

SECTION TEN

MENTAL HEALTH

In the United States, mental disorders collectively account for more than 15 percent of the overall burden of disease from *all* causes and slightly more than the burden associated with all forms of cancer. These data underscore the importance and urgency of treating and preventing mental disorders and of promoting mental health in our society (Mental Health: A Report of the Surgeon General, 1999).

Suicide

What is it?

Suicide is a complex behavior that has been related to multiple risk factors. Persons with suicidal behavior often suffer from a mental and/or substance abuse disorder, which combined with the occurrence of stressful life events and access to lethal suicide methods, among other factors, increases the risk of a suicide attempt. Suicides can be prevented by early recognition and treatment of mental disorders (DHHS, 2001).

Why is it important?

Injury from suicidal behavior is a major public health problem in the United States (National Center for Injury Prevention and Control, 2002). In 2000, suicide ranked tenth among the leading causes of death in California (Wilson, 2003). Besides deaths by suicide, there are many more non-fatal suicide attempts that require medical care. Suicide and suicide attempts are a greater problem in the young (particularly in adolescents) and the elderly. Suicide rates are also higher in males than females (Community Health Improvement Partners; DHHS, 2001).

What is the status in the border region?

In California border counties, similar to California as a whole, the age-adjusted suicide death rates did not change significantly from 1999 to 2001 (Table 10.1). By 2001, neither the border counties nor state had yet met the Healthy People 2010 objective of 5.0 suicides per 100,000 population.

Table 10.1

Deaths Due to Suicide by Race/Ethnicity, 1999-2001

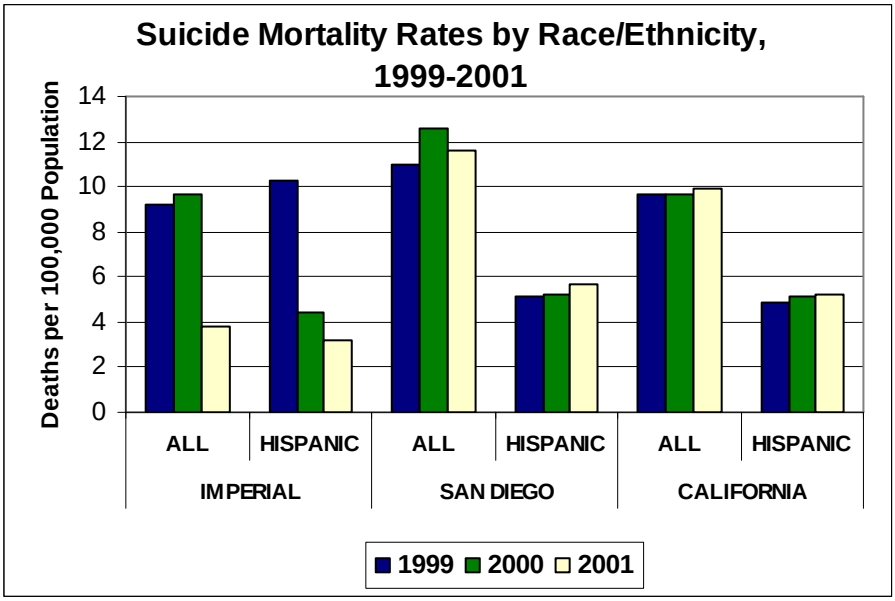
Population	1999			2000			2001		
	Deaths	Rate*	(95% CI)**	Deaths	Rate*	(95% CI)**	Deaths	Rate*	(95% CI)**
Imperial									
All	12	**9.2**	(4.9 - 15.7)	13	**9.7**	(5.0 - 16.9)	5	**3.9**	(1.3 - 9.1)
Hispanic	9	**10.2**	(4.7 - 19.4)	4	**4.4**	(1.2 - 11.3)	3	**3.2**	(0.7 - 9.4)
San Diego									
All	286	**11.0**	(9.7 - 12.3)	333	**12.6**	(11.2 - 13.9)	314	**11.6**	(10.3 - 12.9)
Hispanic	31	**5.1**	(3.4 - 7.3)	32	**5.3**	(3.6 - 7.6)	34	**5.6**	(3.8 - 7.9)
California									
All	3,047	**9.6**	(9.3 - 10.0)	3,113	**9.7**	(9.3 - 10.0)	3,256	**9.9**	(9.6 - 10.3)
Hispanic	417	**4.9**	(4.4 - 5.4)	449	**5.1**	(4.6 - 5.6)	489	**5.3**	(4.8 - 5.8)
Healthy People 2010 Target		**5.0**			**5.0**			**5.0**	

* Rates were calculated per 100,000 residents and age-adjusted to the 2000 U.S. population.

** CI = Confidence Interval, a measure of statistical uncertainty.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

Figure 10.1



Note: Rates are age-adjusted to the 2000 U.S. population.

Source: California Department of Health Services, Center for Health Statistics. Vital Statistics Query System. Available: *http://www.applications.dhs.ca.gov/vsq/default.asp*

In 2000 and 2001, San Diego County's overall suicide mortality rates were significantly higher than the statewide rates. Suicide ranks first among causes of non-natural death in San Diego County, exceeding motor vehicle crashes, homicide, drug overdose, and others. There was an annual average of 321 suicide deaths in San Diego County during the three-year period of 1999-2001 (Community Health Improvement Partners). The suicide rates in Imperial County are unreliable because of the small number of deaths (an average of nine deaths per year).

During 1999-2001, Hispanics in both San Diego County and statewide had age-adjusted suicide mortality rates that were approximately half the rates for the overall population in those regions (Figure 10.1).

Suicide Risk Factors In Hispanics

Although suicide rates are lower among Hispanics than in other racial/ethnic groups in San Diego County and throughout California, some risk factors for suicide are more prevalent in Hispanic youth (grades 9-12). Overall, across the nation, Hispanic students (37.0 percent) were significantly more likely than African American and non-Hispanic White students (28.9 percent and 24.9 percent, respectively) to have felt sad or hopeless almost every day for two weeks or longer. Also, Hispanic students (12.8 percent) were significantly more likely than African American and non-Hispanic White students (6.7 percent and 7.3 percent, respectively) to have attempted suicide (National Center for Chronic Disease Prevention and Health Promotion, 2002).

What is being done?

San Diego-Tijuana Mental Health Work Group

Since January 2003, County of San Diego Health and Human Services Agency staff convened several meetings to address the growing number of Spanish-speaking, chronically mentally ill people in the border region. The county's psychiatric hospital staff met with Tijuana health officials to establish contacts and to identify areas of collaboration, including consultation on the new Tijuana Psychiatric Hospital. Other activities include binational trainings and tours of agencies related to domestic violence in the San Diego-Tijuana region.

SECTION ELEVEN

OBESITY AND OVERWEIGHT

What is it?

Obesity and overweight are usually measured in terms of body mass index (BMI). BMI is a calculated measure of weight in relation to height. It is believed that health risks are increased in individuals with a BMI over 25 kg/m^2. Obesity is defined as a BMI greater than 30 kg/m^2 and overweight is defined as BMI between 25 and 29 kg/m^2.

Why is it important?

According to the U.S. Surgeon General, obesity has reached epidemic proportions in both adults and children in the United States (DHHS, 2000). The morbidity due to obesity and overweight may be as great as poverty, smoking, or problem drinking. Overweight and obese people are at increased risk for coronary heart disease, type 2 diabetes, and endometrial, colon, breast, and other cancers, as well as osteoarthritis. There is also a large economic burden with an estimated $117 billion of combined direct and indirect costs annually in the United States (DHHS, 2000).

There is evidence that acculturation has an impact on obesity in Mexican-origin residents in the United States. Mexican-origin residents born in the United States tend to be more obese than their Mexican-born counterparts. This may be due to differences in diet. Diets of Mexican-born persons who reside in the United States are lower in fat and generally more “heart-healthy” than diets of Mexican-origin persons born in the United States (Dixon et al. 2000).

What is the status in the border region?

In 2001, there were no significant differences between San Diego County, Imperial County, and California as a whole in the percentage of overweight persons. However, Imperial County reported a significantly higher percentage of obese residents (28.4 percent) than San Diego County (15.7 percent) or statewide (18.9 percent) (Table 11.1, Figure 11.1). The percentage of obese individuals in San Diego County was significantly smaller than the statewide rate (California Health Interview Survey, 2001). The Healthy People 2010 target is for no more than five percent of children and adolescents to be overweight or obese. For adults, the Healthy People 2010 target is to reduce the proportion of adults who are obese to 15 percent. Neither California nor either border county has met these targets (DHHS, 2001).

Table 11.1

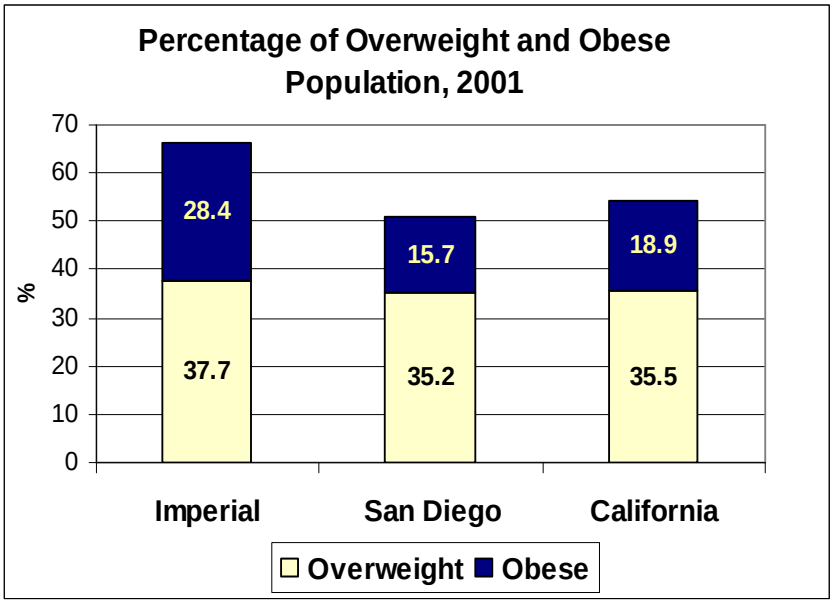
Prevalence of Overweight and Obese Adults, Ages 18 and Over, 2001

Population	Overweight		Obese	
	%	(95% CI)*	%	(95% CI)*
Imperial	**37.7**	(33.5 - 42.0)	**28.4**	(24.4 - 32.3)
San Diego	**35.2**	(33.1 - 37.4)	**15.7**	(14.1 - 17.3)
California	**35.5**	(35.0 - 36.1)	**18.9**	(18.4 - 19.3)

Note: Overweight was defined as having a BMI between 25.0 and 29.9.
Obese was defined as having a BMI of 30.0 or higher

*CI=Confidence Interval, a measure of statistical uncertainty
Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*.
Available: *http://chis.ucla.edu/*

Figure 11.1



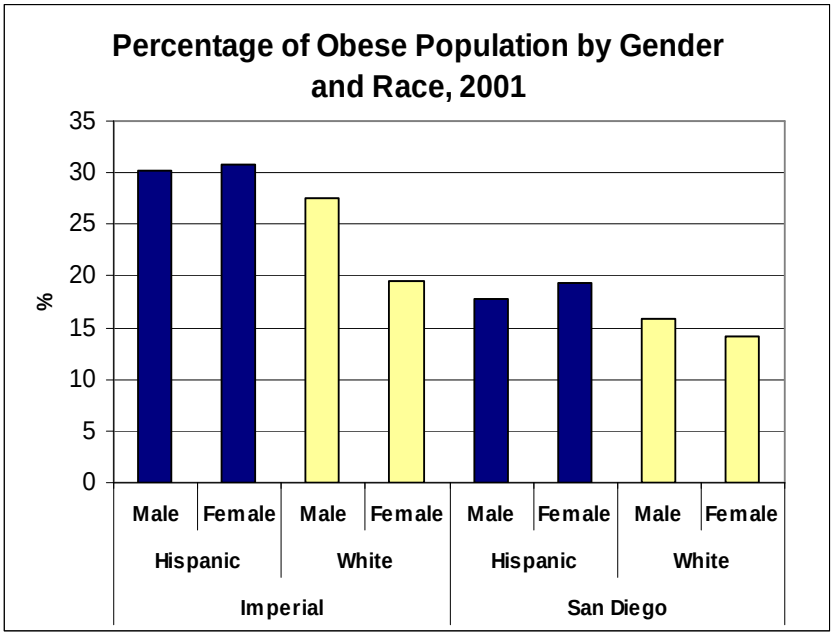
Note: Overweight was defined as having a BMI between 25.0 and 29.9.

Obese was defined as having a BMI of 30.0 or higher

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

A larger percentage of Hispanic females in Imperial County (30.7 percent) and San Diego County (19.3 percent) were obese than non-Hispanic White females in those counties (19.5 percent and 14.1 percent, respectively). A greater percentage of men in Imperial County, both Hispanics (30.0 percent) and non-Hispanic Whites (27.6 percent), were obese compared to San Diego County males of the same race/ethnicity, 7.8 percent and 15.9 percent, respectively (Figure 11.2) (California Health Interview Survey, 2001). The obesity rate in California children has been reported to be higher in Hispanics (16.3 percent) than in non-Hispanic White children (13.5 percent) (Inkelas et al. 2003).

Figure 11.2



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

Food Insecurity among Immigrant Families

Although there is great concern regarding the problems of obesity and overweight, some immigrant groups face the opposite problem of not having a sufficient supply of nutritious food. Many households of Hispanic immigrants are food insecure, meaning they have limited or uncertain availability of nutritionally adequate foods. One study suggested that 40 percent of these households were food insecure without hunger and another 41 percent were food insecure with hunger (Kasper et al. 2000). The problem of food insecurity is found in immigrant populations across the United States, not just in California, and deserves further study.

Physical Activity

In 2001, significantly lower percentages of Hispanic residents in the border counties, as well as throughout the state, reported “no vigorous/moderate physical activity at all” compared to their non-Hispanic White counterparts (Table 11.2, Figure 11.3). In San Diego County, the percentages of Hispanics (24.6 percent) and non-Hispanic Whites (18.2 percent) not engaged in vigorous or moderate physical activities were significantly lower than that of their counterparts in Imperial County and throughout California (California Health Interview Survey, 2001).

Table 11.2

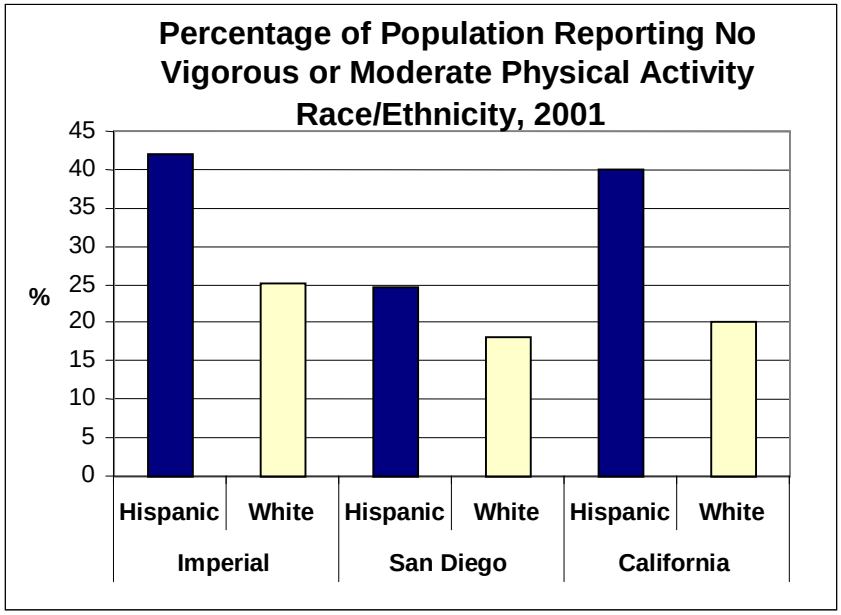
Percentage Reporting No Vigorous or Moderate Physical Activity at All by Race/Ethnicity, Adults Ages 18 and Over, 2001

Population			( )
Imperial	**Hispanic**	**42.1**	(36.6-47.7)
	White	**25.1**	(19.4-30.8)
San Diego	**Hispanic**	**24.6**	(22.7-26.6)
	White	**18.2**	(16.3-20.0)
California	**Hispanic**	**39.9**	(38.6-41.2)
	White	**20.0**	(19.5-20.5)

* CI = Confidence Interval, a measure of statistical uncertainty

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

Figure 11.3



Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

Physical activity rates among Mexican-origin residents of California varied by country of birth (i.e., Mexico versus the United States). In the two border counties, as well as California as a whole, a significantly higher percentage of Mexico-born persons reported having had no moderate to vigorous physical activity compared to the Mexican-origin residents born in the United States. The difference was the greatest for California, with 48.9 percent of Mexico-born persons reporting no moderate to vigorous physical activity, compared to 23 percent of the U.S.-born residents of Mexican origin. In Imperial County and San Diego County, the percentages of Mexico-born persons who reported no moderate to vigorous physical activity were 46.1 percent and 53.3 percent, respectively, compared to 32.6 percent and 28.2 percent, respectively, of the U.S.-born residents of Mexican origin.

SECTION TWELVE

ORAL HEALTH

What is it?

Oral health is essential to the general health and well being of all persons and can be achieved by all Americans, according to a U.S. Surgeon General's report. Safe and effective disease prevention measures can improve oral health and prevent disease. These include regular tooth brushing with fluoride toothpaste, biannual dental visits, and fluoridation of public water supplies. General health risk factors, such as tobacco use and poor dietary practices, also affect oral health (DHHS, 2000).

Why is it important?

Dental caries are the single most common chronic disease of childhood, occurring five to eight times as frequently as asthma (DHHS, 2000).

What is the status in the border region?

Dentists are uniquely positioned to play an expanded role in the detection, early recognition, and management of a wide range of complex oral and general diseases and conditions. However, not everyone visits a dentist on a regular basis. Barriers to dental care include cost, fear of dental visits, and lack of dental insurance, public programs, or providers for underserved racial and ethnic groups (DHHS, 2000).

Time Since Last Dental Visit

In 2001, the percentage of people who had a dental visit in the previous 12 months in San Diego County (71.4 percent) was similar to the statewide rate (71.7 percent). The percentage of people who had a dental visit in the past year was significantly lower in Imperial County (64.7 percent) (California Health Interview Survey, 2001) (Table 12.1).

Table 12.1

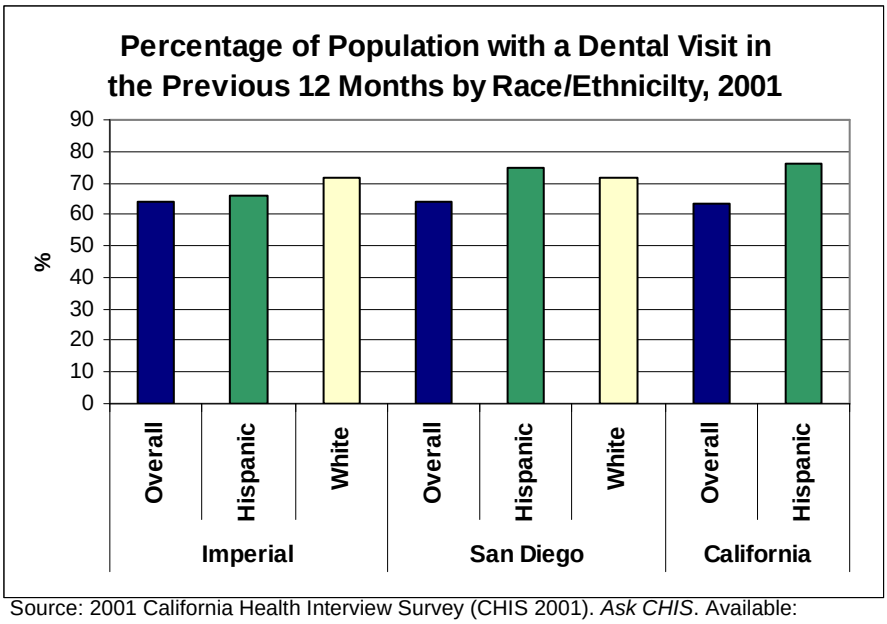
Percentage of Population Who Have Had a Dental Visit Within Previous 12 Months, Ages 2 and Over, 2001

Population		%
Imperial	Overall	64.7
	Hispanic	63.8
	White	65.7
San Diego	Overall	71.4
	Hispanic	63.8
	White	75.0
California	Overall	71.7
	Hispanic	63.3
	White	76.2
Healthy People 2010 Target		56.0

Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

In San Diego County and throughout California, a smaller proportion of Hispanics visited a dentist within the previous year compared to the non-Hispanic White population (Table 12.1, Figure 12.1). In Imperial County, the percentages of Hispanic and non-Hispanic White respondents who had visited a dentist in the previous year were similar. All three regions met the Healthy People 2010 target of 56 percent of the population age two years and older who had a dental visit in the past year (California Health Interview Survey, 2001; DHHS, 2000).

Figure 12.1



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

The ratio of persons per dentist is a measure of the distribution of dentists in the population. Imperial County has significantly more persons per dentist (3,164) compared to California as a whole (1,257). This means that there are fewer than half as many dentists in Imperial County relative to the size of the population as there are statewide. San Diego County's ratio of persons per dentist (1,266) is similar to the statewide rate (CDHS, 2002).

Dental Insurance

In 2001, Imperial County had a higher percentage of residents without dental insurance (48.4 percent) compared to San Diego County (35.5 percent) and California as a whole (35.1 percent) (Table 12.2).

Table 12.2

Percentage of Population* Without Dental Insurance, 2001

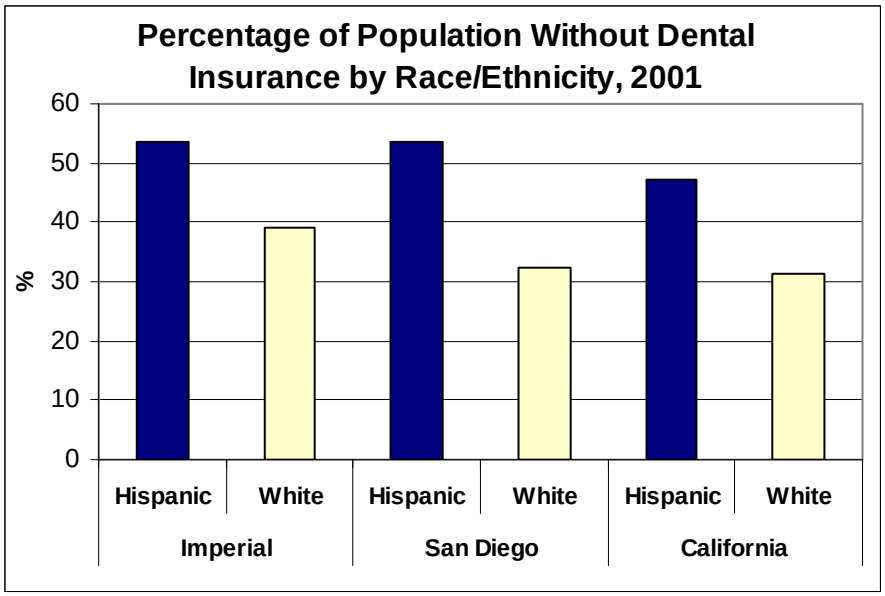
Population		%
Imperial	Overall	48.4
	Hispanic	53.5
	White	39.2
San Diego	Overall	35.5
	Hispanic	53.6
	White	32.3
California	Overall	35.1
	Hispanic	47.1
	White	31.5

*Adults 18 years and older and children 2-11 years old

Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

In the two border counties and throughout California, a significantly higher percentage of Hispanics had no dental insurance compared to the non-Hispanic White population in those jurisdictions (Figure 12.2).

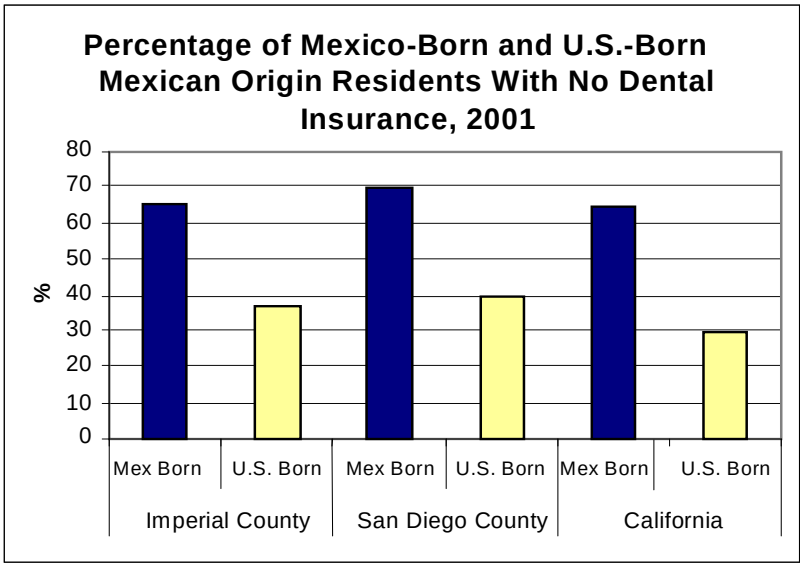
Figure 12.2



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

Among persons of Mexican origin in California, the percentage of those born in Mexico who had no dental insurance (64.7 percent) is more than double that of U.S.-born persons (29.4 percent). In the border counties, the difference is not as large as for the state as a whole, but the difference is still significant. In Imperial County, 64.9 percent of Mexican-born persons had no dental insurance, compared to 36 percent of U.S.-born residents of Mexican origin. In San Diego County, 69.8 percent of Mexican-born persons had no dental insurance, compared to 39.9 percent of the U.S.-born residents of Mexican origin (Figure 12.3).

Figure 12.3



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS Available: http://chis.ucla.edu/*

What is being done?

CDC recommends fluoridation of public water supplies. Widespread use of fluoride has been a major factor in the decline in the prevalence and severity of dental caries in the United States (Centers for Disease Control and Prevention, 1995). The Healthy People 2010 objective is to increase to 75 percent the proportion of the U.S. population served by community water systems with optimally fluoridated water.

In 1996, the California Legislature approved a bill mandating fluoridation of public water supplies "when funding becomes available," was signed into law (San Diego County Water Authority, 2004). Statewide, 28.7 percent of California residents now receive fluoridated water through public water systems. Neither border county currently fluoridates the drinking water. San Diego County is expected to begin fluoridating the drinking water in 2006. Imperial County has not publicly announced any plans to fluoridate (Water Fluoridation Reporting System, 2004).

SECTION THIRTEEN

RESPIRATORY DISEASES

Asthma

What is it?

Asthma is a chronic inflammatory lung disease. Common symptoms include recurrent episodes of shortness of breath, wheezing, coughing, and chest tightness (Yeng, 2003). Asthma episodes can range from mild to life threatening, but can be controlled and prevented with appropriate clinical management and by limiting exposure to environmental triggers (San Diego Regional Asthma Coalition, 2003).

Why is it important?

Asthma has significant and costly negative effects on those with the disease and on society as a whole, being directly responsible for lower quality of life, elevated medical care expenditures, reduced work productivity, school absenteeism, and loss of life (Yeng, 2003).

What is the status in the border region?

Asthma prevalence has increased dramatically in the United States during the past two decades (Stockman, 2003).

Table 13.1

Percentage of Population Ever Diagnosed with Asthma by Race/Ethnicity, Ages 1 and Over, 2001

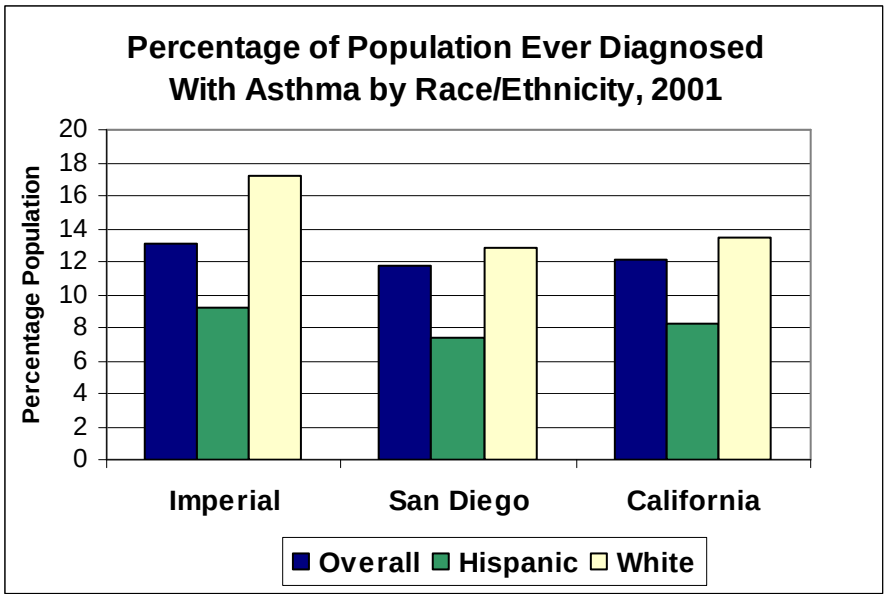
Population		%	(95% C.I.*)
Imperial	**Overall**	**13.1**	(10.9 - 15.4)
	Hispanic	**9.2**	(6.9 - 11.5)
	White	**17.2**	(12.5 - 21.8)
San Diego	**Overall**	**11.8**	(10.5 - 13.1)
	Hispanic	**7.4**	(4.9 - 9.9)
	White	**12.9**	(11.3 - 14.5)
California	**Overall**	**12.1**	(11.8 - 12.4)
	Hispanic	**8.2**	(7.6 - 8.8)
	White	**13.5**	(13.1 - 14.0)

* CI = Confidence Interval, a measure of statistical uncertainty

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. *http://chis.ucla.edu*

In 2001, the percentage of people ever diagnosed with asthma (lifetime prevalence) in Imperial County (13.1 percent) was not significantly higher than in San Diego County (11.8 percent) and statewide (12.1 percent) (Table 13.1, Figure 13.1).

Figure 13.1



Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

The percentage of Hispanics ever diagnosed with asthma in Imperial County (9.2 percent), San Diego County (7.4 percent), and statewide (8.2 percent) were all significantly lower than the percentages for the non-Hispanic White population in those jurisdictions (17.2 percent, 12.9 percent, and 13.5 percent, respectively) (Table 13.1, Figure 13.1).

The prevalence of asthma among persons of Mexican origin in California was heavily influenced by country of birth. The rates of diagnosed asthma were much higher in U.S.-born persons of Mexican origin, which may reflect access to care issues rather than actual disease prevalence. In Imperial County, 11.9 percent of U.S.-born residents of Mexican origin were diagnosed with asthma, compared to only 6.1 percent of those born in Mexico. The trends were similar throughout California (U.S.-born 11.8 percent, Mexico-born 4.2 percent), as well as for San Diego County (U.S.-born 11.3 percent, Mexico-born 2.4 percent).

Table 13.2

Asthma Symptom Prevalence* by Age Group, 2001

Population	Children (ages 1-17)		Adults (ages 18+)		All Ages	
	%	(90% CI)**	%	(90% CI)**	%	(90% CI)**
Imperial	**11.2**	(8.1 - 14.3)	**8.9**	(6.9-10.9)	**9.7**	(8.0 -11.4)
San Diego	**9.8**	(7.7 - 11.9)	**7.4**	(6.5-8.3)	**8**	(7.2 - 8.9)
California	**9.6**	(9.1 - 10.1)	**8.5**	(8.3-8.8)	**8.8**	(8.6 - 9.1)

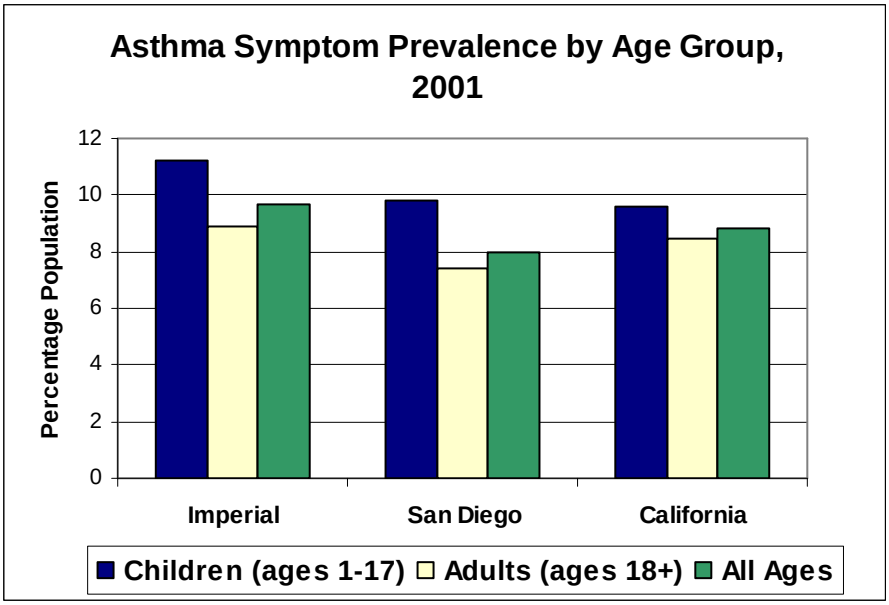
* People who reported being diagnosed with asthma by a physician at any time and reported symptoms of asthma during the preceding 12 months.

** CI = Confidence Interval, a measure of statistical uncertainty

Source: Meng Y.Y., et al., 2003

In 2001, Imperial County reported a slightly higher percentage of children (ages 1-17) or adults (aged 18 and older) who were diagnosed with asthma at any time and who reported symptoms of asthma in the preceding 12 months than San Diego County or throughout California. The differences in percentages of asthma symptom prevalence among the three jurisdictions, however, were not statistically significant (Table 13.2, Figure 13.2).

Figure 13.2



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

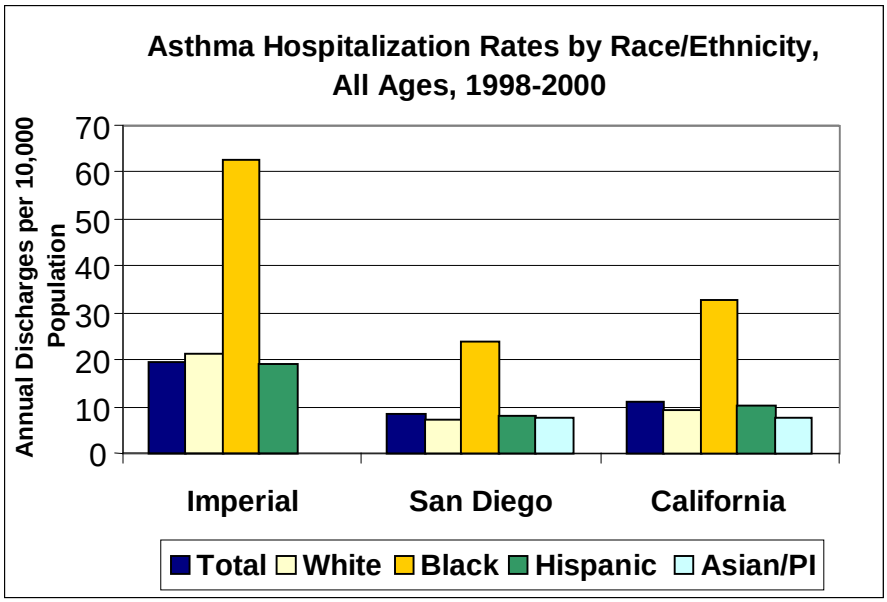
Asthma-related Hospitalizations

Asthma hospitalization rates in the United States have gradually declined during the past two decades. In 2000, California reported lower asthma hospitalization rates than for the United States. However, rates varied by race/ethnicity and county (Stockman et al. 2003).

The age groups for which asthma hospitalization data is available correspond to those used for the Healthy People 2000 objectives, rather than the revised Healthy People 2010 objectives. For this reason, the older Healthy People 2000 objectives are used as a reference.

During 1998-2000, Imperial County reported the highest age-adjusted rate of asthma hospitalizations of all counties in California (19.3 per 10,000), as well as the highest rates for each race/ethnicity examined. Imperial County's hospitalization rates were higher than the Healthy People 2000 target rate of 16.0 per 10,000 (Figure 13.3, Table 13.3). San Diego County reported rates that were below the Healthy People 2000 target and even lower than the statewide rates. San Diego County also reported lower rates for most race-specific groups, including Hispanics. Hispanics in the border counties reported asthma hospitalization rates similar to the non-Hispanic White population in the corresponding jurisdiction, while the hospitalization rates for Hispanics statewide were significantly higher than for the non-Hispanic White population (Stockman et al. 2003).

Figure 13.3



Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

Table 13.3

Age-Adjusted Annual Asthma Hospitalization Rates in Children by Race/Ethnicity, Ages 0-14 years, 1998-2000

Population	Total			Non-Hispanic White			Black			Hispanic			Asian/Pacific Islander		
	N*	Rate+	(95% C.I.§)	N*	Rate+	(95% C.I.§)	N*	Rate+	(95% C.I.§)	N*	Rate+	(95% C.I.§)	N*	Rate+	(95% C.I.§)
Imperial	217	**52.4**	(45.6-59.7)	28	**52.9**	(35.4-73.8)	8	**-**		176	**50.4**	(43.1-58.4)	<5	**-**	-
San Diego	9713	**13.8**	(12.9-14.7)	3523	**11.1**	(10.0-12.3)	158	**31.8**	(27.1-37.0)	348	**13.0**	(11.5-14.4)	66	**9.7**	(7.4-12.2)
California	15177	**18.1**	(17.8-18.4)	4598	**14.9**	(14.5-15.3)	3455	**57.6**	(55.7-59.6)	5555	**14.9**	(14.5.15.4)	2708	**9.7**	(9.1-10.4)

*Average number of discharges per year

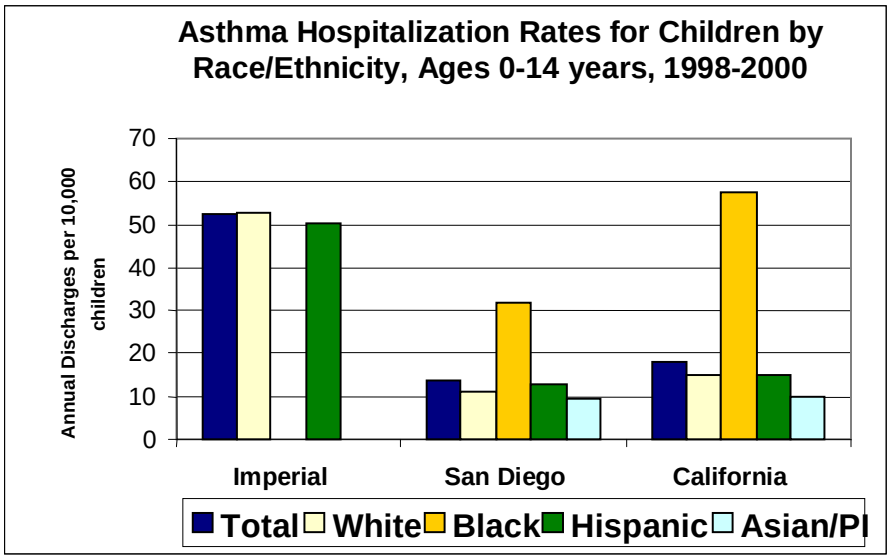
+Rates were calculated per 10,000 population. Rates not present if the total number number of cases for the 3 years was less than thirty

§CI = Confidence Intervals, a measure of statistical uncertainty

Source: Stockman et al., 2003

Of all counties in California, Imperial County reported the highest asthma hospitalization rate among children aged 0-14 for all race/ethnicity groups combined, as well as the highest rate for Hispanic children (Figure 13.4, Table 13.3). San Diego County reported a lower rate (13.8 per 100,000) than the state, and a rate well below the Healthy People 2000 target for that age group (22.5 per 10,000). In general, asthma hospitalization rates for Hispanics in border counties and California were similar to rates for the non-Hispanic White population (Stockman et al. 2003).

Figure 13.4



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

Caution must be used when interpreting asthma hospitalization discharge rates since a person may be admitted and discharged several times within a year for asthma and, therefore, be counted several times. The fact that asthma hospitalization rates were higher in Hispanics than in the non-Hispanic White population but the prevalence was lower in this group might suggest under-diagnosis perhaps related to cultural issues and poor access to care. Asthma hospitalization rates reportedly are influenced by access to preventive care,

medication use, insurance status, poverty, housing issues, as well as indoor and outdoor air quality (Stockman, 2003).

What is being done?

The Imperial County Public Health Department, working closely with a local collaborative and with the support of the USMBHC California Outreach Office, has completed the first phase of a Healthy Border Project on Asthma Control, which addressed the county's high asthma hospitalization rates.

SECTION FOURTEEN

SUBSTANCE ABUSE

Alcohol Use

What is it?

Excessive drinking affects almost every part of the body. Long-term, heavy drinking increases risks for high blood pressure, heart muscle and rhythm disorders, stroke, liver damage, and some types of cancer.

Why is it important?

Alcohol use is involved with many motor vehicle accidents that result in injury and death. In the United States, Hispanics and non-Hispanic Whites are more likely to use alcohol than African Americans (DHHS, 2001).

What is the status in the border region?

Alcohol Use Among Adolescents

In San Diego County, 42 percent of eleventh graders, 29.8 percent of ninth graders, and 15.9 percent of seventh graders reported they had consumed alcohol in the previous 30 days in a 2001 survey (San Diego County Board of Supervisors and San Diego County Health and Human Services Agency, 2002). These percentages are lower than reported in a similar survey in 1999, but are still indicative of a serious, ongoing problem. The Healthy People 2010 target is for at least 89 percent of high school seniors to not have consumed alcohol in the past 30 days (i.e., 11 percent or fewer who have consumed alcohol in the past 30 days). The percentages for San Diego youth exceed this objective. Another important Healthy People 2010 target is to increase the percentage of high school seniors who have never used alcohol to 29 percent (DHHS, 2001).

Among Hispanics in San Diego County schools, 46.2 percent of eleventh graders, 37.5 percent of ninth graders, and 22.3 percent of seventh graders reported drinking alcohol in the previous 30 days (County of San Diego Board of Supervisors and San Diego County Health and Human Services Agency, 2002). All of those rates are higher than for the general population of students in the county and far exceed the Healthy People 2010 objectives.

Table 14.1

Percentage of Teens Who Have Never Had an Alcoholic Beverage, Ages 12-17 years, 2001

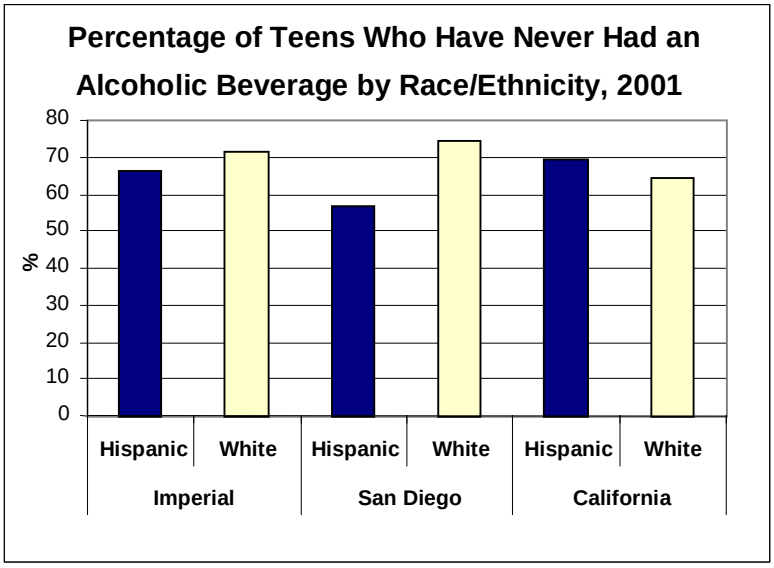
Population		%	(95% CI)*
Imperial	All		(
	Hispanic		(
	White		(
San Diego	All		(
	Hispanic		(
	White		(
California	All		(
	Hispanic		(
	White		(

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

*CI=Confidence Interval, a measure of statistical uncertainty

Table 14.1 and Figure 14.1 show the percentages of young people aged 12 to17 in the border counties and statewide who reported they never had more than a few sips of an alcoholic beverage. There were no significant differences among the three regions in the percentages of teens who had never had an alcoholic beverage. Even though smaller percentages of Hispanics reported they had never drank alcohol compared to the non-Hispanic White population, those differences were not statistically significant. The Healthy People 2010 objective of 29 percent relates only to high school seniors and, thus, cannot be used to evaluate the percentages for adolescents aged 12 to 17; however, the target is useful for measuring future progress.

Figure 14.1



Alcohol Abuse Among Adults

In 2001, the percentage of Imperial County adults who reported consuming five or more alcoholic beverages at least once in the previous month (36.0 percent) was significantly higher than the percentage of adults in San Diego County (25.6 percent) and statewide (26.3 percent) (Table 14.2, Figure 14.2). The percentages of Hispanics in San Diego County (36.7 percent) and statewide (35.9 percent) who reported drinking five or more alcoholic beverages at least one time in the previous month were significantly higher than percentages for non-Hispanic White respondents (23.5 percent and 24.2 percent, respectively). All of these percentages are much higher than the Healthy People 2010 objective of less than six percent of adults aged 18 and older that consumed five or more alcoholic beverages on the same occasion in the previous month.

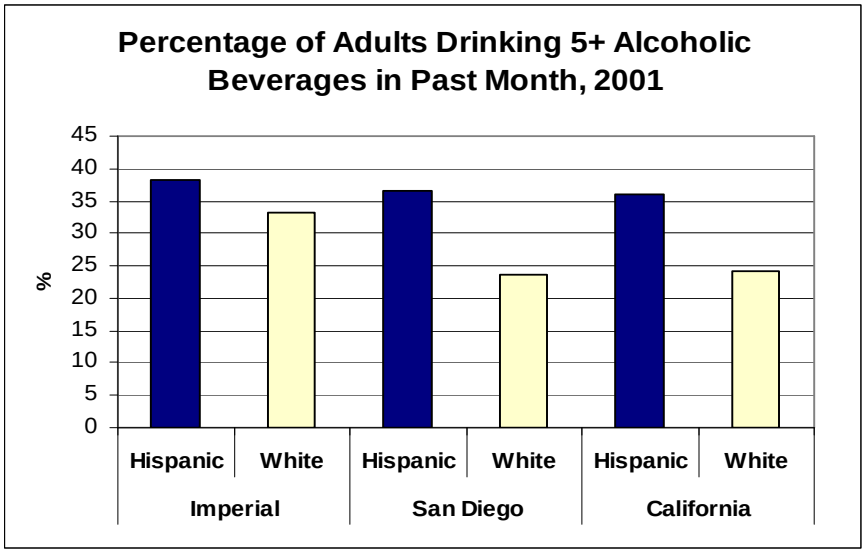
Table 14.2

Percentage of Adults Who Had 5+ Alcoholic Beverages in Past Month, 2001

Population		Percent
Imperial	All	36.0
	Hispanic	38.2
	White	33.3
San Diego	All	25.6
	Hispanic	36.7
	White	23.5
California	All	26.3
	Hispanic	35.9
	White	24.2

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

Figure 14.2



Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS*. Available: *http://chis.ucla.edu/*

Binge Drinking in Mexico Among U.S. Youth

Healthy People 2010 has two objectives related to binge drinking in teens. The first objective is to lower the percentage of young people who have consumed five or more alcohol drinks in the past two weeks to 11 percent for high school seniors and 20 percent for college students. The other objective is to reduce the percentage of adolescents aged 12-17 who have binged in the past month to two percent (DHHS, 2001).

Cheap alcohol drinks and a lax social environment combined with a lower drinking age of 18 years have long attracted U.S. youth to Mexico. Many 18 to 20 year olds go to Mexico on weekends to drink and socialize, and then late at night they return to the United States. This results in increased rates of crime, sexual assaults, violence, and alcohol-related crashes on both sides of the border, as well as problems at home and school (Institute for Public Strategies, 2002).

What is being done?

Officials in Tijuana Baja California collaborated with San Diego County officials to develop alcohol control policies. This includes putting pressure on bars and other establishments that serve alcoholic beverages to remove alcohol promotional signs from the front of the establishment, checking identification to ensure that the legal drinking age of 18 is enforced, establishing designated driver programs, and responsible beverage training for serving staff (Lange, et al.). The problem, however, is far from solved.

Tobacco Use

What is it?

Tobacco use remains the leading cause of *preventable* illness and death in the United States.

Why is it important?

Tobacco use causes more than 440,000 deaths each year and results in an annual cost of more than $75 billion in direct medical costs. Globally, smoking-related deaths are expected to rise to ten million per year by 2030, with seven million of those deaths occurring in *developing countries*. The United States and other countries are collaborating to create an international framework designed to slow the global epidemic of tobacco-related death and disease (National Center for Chronic Disease Prevention and Health Promotion, 2001).

Approximately 80 percent of adult smokers started smoking before age 18. Every day, nearly 4,000 young people under age 18 try their first cigarette. More than 6.4 million children living today will die prematurely because of a decision they will make as adolescents — the decision to smoke cigarettes.

What is the status in the border region?

The Healthy People 2010 objectives related to tobacco use are to reduce cigarette smoking in adults (18 years and older) to 12 percent and in adolescents (grades 9-12) to 16 percent (DHHS, 2000).

Table 14.3

Percentage of Teens Who Have Ever Been a Regular Smoker, Ages 12-17 years, 2001

Population		%
Imperial	All	3.2
	Hispanic	3.8
	White	2.4
San Diego	All	3.9
	Hispanic	2.3
	White	5.4
California	All	5.2
	Hispanic	3.7
	White	6.8

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

In the two border counties and throughout the state, fewer than seven percent of both Hispanic and non-Hispanic White teens (aged 12-17) reported ever being a regular smoker (Table 14.3). Although the Healthy People 2010 objective refers to adolescents who are current smokers, the data shown here suggests that in the border counties and statewide, the target of 16 percent or fewer current adolescent smokers has been met. In San Diego County and throughout California, a smaller percentage of Hispanic teens (2.3 percent and 3.7 percent) had ever been regular smokers compared to non-Hispanic White teens (5.4 percent and 6.8 percent). In Imperial County, the percentage of Hispanic teens that were "ever regular smokers" (3.8 percent) was slightly higher than in non-Hispanic Whites (2.4 percent) (California Health Interview Survey, 2001).

Table 14.4

Current Smokers Among Adults by Race/Ethnicity, Ages 18 and Over, 2001

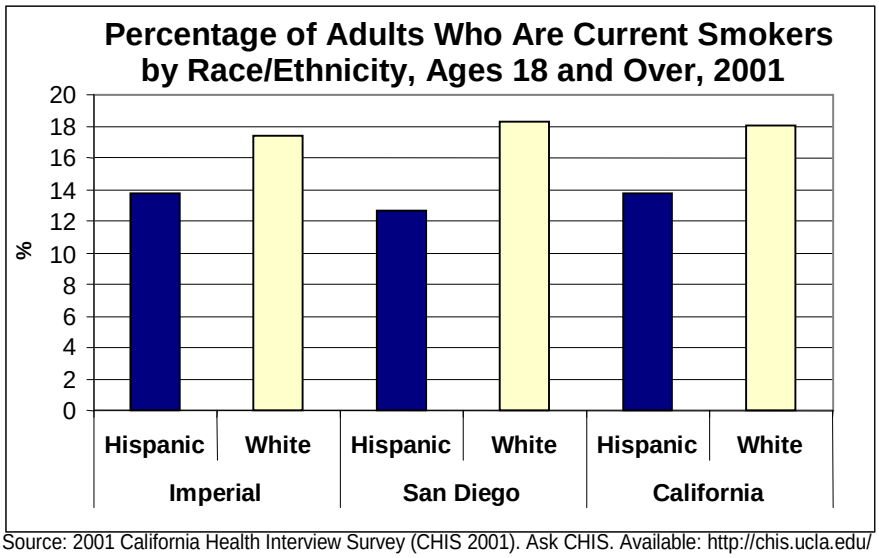
Population		%	(95% CI)*	Number
Imperial	**All**	**15.8**	(12.5 - 19.2)	14,000
	Hispanic	**13.7**	(9.5 - 17.9)	7,000
	White	**17.4**	(11.9 - 23.0)	4,000
San Diego	**All**	**17.1**	(15.4 - 18.8)	341,000
	Hispanic	**12.7**	(8.9 - 16.5)	46,000
	White	**18.3**	(16.1 - 20.4)	232,000
California	**All**	**16.9**	(16.5 - 17.4)	4,040,000
	Hispanic	**13.7**	(12.8 - 14.7)	775,000
	White	**18.1**	(17.6 - 18.7)	2,410,000

*CI=Confidence Interval, a measure of statistical uncertainty

Source: 2001 California Health Interview Survey (CHIS 2001). *Ask CHIS* . Available: *http://chis.ucla.edu/*

In 2001, the overall percentage of adults who reported being current smokers ranged from 15.8 percent in Imperial County to 17.1 percent in San Diego County and 16.9 percent in California. The differences, however, were not statistically significant (Table 14.4, Figure 14.3). These percentages are all higher than the Healthy People 2010 target of 12 percent for current adult smokers. Even though a higher percentage of adult non-Hispanic Whites reported being current smokers compared to Hispanics in all three regions, only the differences for California as a whole were found to be statistically significant.

Figure 14.3



Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS. Available: http://chis.ucla.edu/

SECTION FIFTEEN

OTHER ISSUES OF CONCERN IN THE BORDER REGION

Bioterrorism Preparedness

What is it?

Bioterrorism (BT) is the use of biological agents such as bacteria or viruses as a weapon of mass destruction. BT preparedness involves planning for emergency response and heightened surveillance to detect unusual diseases or increased numbers of illnesses that might be associated with attacks using biological or chemical agents.

Why is it important?

There are many reasons why the U.S.-Mexico border is particularly vulnerable to a bioterrorist attack. The San Diego–Tijuana border crossing is the most-crossed international land boundary in the world. San Diego County is a high-risk target because of its tourism and defense industries. Imperial County's agricultural economy makes use of crop-dusting aircraft that could be used in a bioterrorist attack. The border region is also one of the most neglected areas of the United States and Mexico in terms of terrorism and disaster preparedness (U.S.–Mexico Border Health Commission, 2003). California will not be prepared for a bioterrorist attack without giving specific attention to the U.S.-Mexico border.

Heightened disease surveillance in the border region is critical. The incidence of many infectious diseases is already higher in border regions than in the rest of the United States and Mexico (Santillanez-Robson, 2002; Bioterrorism Threat, 2003). Infectious agents released on either side of the border would spread rapidly throughout California and Baja California.

What is the status in the border region?

Deficiencies in BT preparedness exist on both sides of the U.S.-Mexico border. Detection of BT in Mexico would likely be delayed because of the lack of laboratory infrastructure and training. Baja California does not have a public health laboratory that can perform "Level A" testing for many BT agents (U.S.-Mexico Border Health Commission, 2003).

Many Mexican border health jurisdictions lack Internet connectivity, sufficient telephone and fax capacity, and communication back-up systems to respond fully in an emergency situation (U.S.–Mexico Border Health Commission, 2003). There is a high potential for confusion and lack of coordination between California and Baja California following a bioterrorist attack due to communication and language problems. Some border BT educational and planning materials are not available in both Spanish and English.

What is being done?

The Border Infectious Disease Surveillance (BIDS) project is an infectious disease tracking system that conducts syndromic (disease symptom) surveillance in sentinel sites along both sides of the U.S.-Mexico border.

San Diego County's Public Health Laboratory, in collaboration with COBBH and the Baja California Secretariat of Health, completed a series of activities to strengthen BT capabilities in public health laboratories on both sides of the U.S.-Mexico border. CDC's BT protocols were translated into Spanish and reviewed by U.S. and Mexican health officials. Staff from six Mexican public health laboratories received BT laboratory training. Cross-border meetings to formalize binational protocols continue.

In addition to these projects, funding has been set aside to specifically target additional BT preparedness activities along the border. In 2002, CDC provided supplemental funding to California and other U.S. states for BT preparedness to address planning, epidemiology and surveillance, laboratory, health information systems, training, and health communication to the public. Border states such as California received guidance to apply some of this funding to address border BT preparedness issues. In 2003, DHHS provided additional funds specifically for use by border states to address epidemiology and surveillance issues. California received $1,059,378 in 2003-04 for this purpose. Another $5.5 million was awarded by DHHS to the USMBHC for complementary activities in Mexican states along the border, including Baja California. CDC guidance to U.S. states regarding border BT preparedness included these suggested activities:

- Hire full-time epidemiologists (bilingual, as appropriate) and/or public health nurses devoted to BIDS activities.
- Integrate activities with existing CDC-funded projects such as BIDS and Emerging Infections.
- Consider expansion of the BIDS project in other binational locations with significant numbers of border crossings.
- Establish a plan for binational border disease surveillance on a 24/7 basis.
- Pilot severe acute vesicular rash surveillance at the BIDS project sentinel sites or in specific counties.

- Plan and participate in binational BT preparedness tabletop exercise(s) with surveillance and epidemiology components. Conduct binational surveillance and epidemiology training workshops.
- Provide additional binational laboratory training.
- Create a binational laboratory reagent and specimen transport plan, where appropriate, and provide funding for reagents for lab testing for BIDS in the event of a bioterrorist attack.
- Develop cross-border videoconferencing capacity.
- Create a functioning cross-border health alert network.

Prescription Medications and Alternative Medicines

What is it?

Purchasing medicine in another country is an indicator of how people access health care outside of the United States. Some border residents, particularly Hispanics who live near the U.S.-Mexico border, frequently purchase medications in Mexico. This may be because they are familiar with the products, which also may be less expensive and available without a prescription. Some Hispanics view Mexican medications as being “stronger” than those available in the United States. This issue goes beyond ethnic boundaries as an estimated 25 percent of U.S. residents who enter Mexico as tourists purchase pharmaceutical products (Shepherd, 2000).

Hispanic immigrants in California are known to lack access to or under utilize health care services, and this may be why some Latinos have been reported to self-medicate, particularly with home remedies, and with medications available only by prescription in the United States.

Why is it important?

Self-medication is usually coupled with self-diagnosis. Antibiotics are one class of medication that is frequently self-administered which is an improper use of antibiotics. Improper use of antibiotics can lead to antibiotic resistance which is a concern to the general population in the United States (Pylypa, 2001). Some medications that are banned in the United States because of poor efficacy or unacceptable side effects are available without a prescription in Mexican pharmacies (Institute For Health Advocacy, 1999). For example, a substantial percentage (38 percent) of Hispanic patients at a San Diego community clinic report having used dipyrone (brand name Neo-melubrina), an anti-fever drug banned in the United States because it can cause a dangerous drop in white blood cells (Taylor, 2001). Most San Diego health care providers had no knowledge of Neo-melubrina.

A survey of low-income Hispanic women in Los Angeles revealed that 43.5 percent of the households used injectable medications purchased in Mexico without a prescription and 48 percent reused disposable needles. Also, 36 percent shared needles with others. Medications commonly injected at home are vitamins and antibiotics (Flaskerud, 1996).

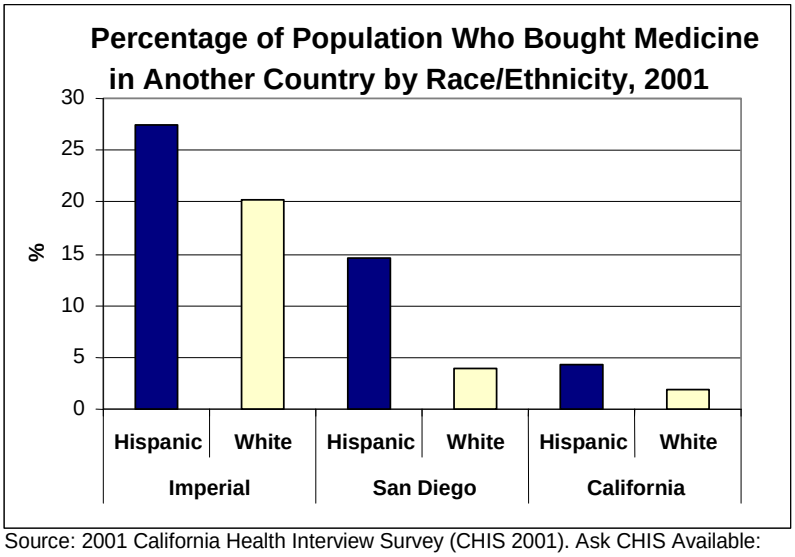
Pharmacy attendants in Mexico are sometimes consulted for diagnosis and treatment as if they were doctors with the assumption that they are qualified to do so (Pylypa, 2001).

What is the status in the border region?

In 2001, a reported 24.7 percent of Imperial County residents bought medicines in another country during the previous 12 months, significantly higher than the percentage of residents in San Diego County (6.1 percent) and statewide (2.4 percent). In 99 percent of the cases, Mexico was the country where the medication was purchased.

Hispanics in Imperial County, San Diego County, and California as a whole were significantly more likely to have bought medicines in another country and mostly in Mexico (27.5 percent, 14.6 percent, and 4.3 percent, respectively) when compared to non-Hispanic White residents (20.2 percent, 4.0 percent, 1.9 percent, respectively) (Figure 15.1). Nearly all of the time (95 percent to 98 percent), the other country was Mexico (California Health Interview Survey, 2001).

Figure 15.1



Source: 2001 California Health Interview Survey (CHIS 2001). Ask CHIS Available: http://chis.ucla.edu/

Childhood Lead Poisoning

What is it?

In most places in the United States, lead poisoning occurs in toddlers residing in pre-1978 built housing that may contain lead-based paint. Automobile exhaust exposure was also a problem in 1996, before the advent of unleaded gasoline. For certain subpopulations, such as Hispanics, other sources of lead exposure have become important, such as traditional medicines and ceramic cookware (County of San Diego Childhood Lead Prevention Program, 2000; Aguirre, 2003).

Why is it important?

High blood lead levels have long been known to cause serious health consequences such as gastrointestinal and central nervous system disturbances (Markowitz, 2000). However, in the past two decades it has been discovered that even low blood lead levels are associated with decreased intelligence (IQ), hyperactivity, and impulsiveness, as well as anemia (County of San Diego Childhood Lead Poisoning Prevention Program, 2000; Aguirre, 2003).

What is the status in the border region?

The Healthy People 2010 target is for no child to have elevated blood lead levels (DHHS, 2001).

In San Diego County, the majority of lead-poisoned children have multiple sources of exposure. Between 1992 and 2002, 985 cases of childhood lead poisoning were reported in San Diego County. About 88 percent of those children were Hispanic; one-third of these children reported eating foreign-made candies. Lead has been found in some Mexican candies and wrappers (Centers for Disease Control and Prevention, 2002). The primary source of lead exposure in San Diego County is lead based paint (21 percent). However, ethnic items such as ceramic cookware (14 percent) and home remedies (13 percent) (*alarcon* and *greta*) together make up 27 percent of exposure cases, even higher than the percentage for paint (County of San Diego Childhood Lead Prevention Program, 2000; Aguirre, 2003).

San Diego County has been designated as a critical lead risk “hot spot,” which refers to areas in the United States with the highest percentage of older housing, poverty, and minority residents. High- and very high-risk areas are clustered in central and eastern portions of the city of San Diego and in the border region (Ross, 2000).

In Imperial County, the number of reported lead poisoning cases is very small. In total, there were seven lead poisoning cases reported from 1999-2002. Of those, six of the seven were Hispanics.

It has been estimated that only six percent of high-risk children are tested for lead in San Diego County and less than 13 percent of children are tested in Imperial County and throughout California (Ross, 2000). The children at highest risk are the ones most likely to not be tested. This would include children who are poor, Hispanic, and reside in the border area (California State Auditor, 1999).

A study along the Texas-Mexico border demonstrated that many people bring unregulated, lead-containing items such as candies, medication, and ceramics from Mexico for personal use. Some people may bring large quantities of these same items for commercial use, but do not declare them to border authorities for inspection (U.S. Environmental Protection Agency, 2003).

REFERENCES

2001 California Health Interview Survey (CHIS, 2001). Ask CHIS: *http://chis.ucla.edu/*

Agency for Toxic Substances and Disease Registry (ATSDR), http://www.atsdr.cdc.gov//HEC/CSEM/asthma/envfactors.html#PM10 (retrieved March 29, 2004).

Aguirre M, and Hernandez S (2003), Lead Poisoning in Hispanic Children: The Great Need for Preventive Education. *California Journal of Health Promotion,* 1(2): 52-58.

American Cancer Society, California Division, and Public Health Institute (September 2002), California *Cancer Registry. California Cancer Facts and Figures 2003*. Oakland, CA: American Cancer Society, California Division.

Avila-Figueroa C, Izazola-Licea JA, 2003. HIV/AIDS in Mexico Epidemiology. Health Care Reform in Mexico, October 2003, Mexico.

Beckles GLA and Thompson-Reid PE (2002), Socioecomic Status of Women With Diabetes, *MMWR,* 51(7):147-148,159, Centers For Disease Control and Prevention.

Bentley JR, Delfi RJ, Taylor TH et al (1998), Differences In Breast Cancer Stage at Diagnosis Between Non-Hispanic White and Hispanic Populations, San Diego County 1988-1993. *Breast Cancer Research And Treatment,* 50, 1-9.

Bioterrorism (BT) Planning Report: U.S. – Mexico Border Aspects (April, 2002). Unpublished version.

Bioterrorism (BT) Preparedness and Response between California and Baja California, Unpublished Draft Report.

Bowen N, Yancey AC, Jones G et al (August 2002), *Unintentional Injury In San Diego County: July 1, 1999 through June 30, 2000*, County of San Diego Health and Human Services Agency, Chronic Disease and Injury Prevention, Emergency Medical Services.

Brener N, Kann L, Kolbe L, Lehnherr J, et al (2001), Trends in sexual risk behavior among high school students: United States 1991-2001. MMWR; 51(38):856-9. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5138a2.htm

Brodish PH, Massing M, Tyroler HA, et al (2000) Income Inequality and All-Cause Mortality, South Med J 93(4):386-391.

Brown, ER, Ponce N, Rice T, Lavarreda SA. (2002), The State of Health Insurance in California: Findings from the 2001 California Health Interview Survey. Los Angeles, CA: UCLA Center for Health Policy Research. *People 2010 Objectives* (Second Edition, in Two Volumes). Washington, D.C., January 2001.

Bureau of Transportation Statistics, *Border Crossing/Entry Data,* United States Bureau of Transportation, http://www.bts.gov/help/border_crossing_entry_data.html (retrieved March 12, 2004).

Calderon JL and Beltran RA (2004), Pitfalls in Health Communication: Healthcare Policy, Institution, Structure & Process, *Medscape General Medicine,* 6(1), http://www.medscape.com/viewarticle/466016 (retrieved March 8, 2004).

California Birth Defects Monitoring Program, http://www.cbdmp.org/gd_intro.htm, http://www.cbdmp.org/pbd_overview.htm (retrieved March 8, 2004)

California Center For Public Health Advocacy (2002, December), Overweight and Unfit Children in California Assembly Districts Legislative District Policy Brief 1.

California Department of Health Services (2003), *Breast Cancer and Mammography Information,* at http://www.cdc.gov/cancer/nbccedp/info-bc.htm.

California Department of Health Services (2003), California Diabetes Control Program, *Fast Facts on Diabetes.*

California Department of Health Services, Center for Health Statistics, Vital Statistics Query System at: http://www.applications.dhs.ca.gov/vsq/default.asp

California Department of Health Services (2002), *Cervical Cancer,* http://www.dhs.ca.gov/cancerdetection

California Department of Health, Department of Pesticide Regulation, Summary of Hospitalization and Disability Associated with Illness/Injuries, Definitely or Probably Related to Pesticide Exposure, 1999-2001.

California Department of Finance, Demographic Research Unit California State Census Data Center. http://www.dof.ca.gov/html/Demograp/table1.xls (retrieved member 2003).

California Department of Health Services, *Director's Weekly Health Tip – January is Cervical Cancer Awareness Month*, (2004), California Department of Health Services website, http://www.dhs.ca.gov/pcfh/wic/resources/directorTips/2004_index/01_05_04.htm

California Department of Health Services, Fall 2002 Kindergarten Assessment Results, http://www.dhs.ca.gov/ps/dcdc/izgroup/pdf/ka.pdf

California Department of Health Services, Fluoridation is Safe, Effective, and Ecomical. *Chronic Disease and Injury Website*, http://www.dhs.ca.gov/ps/cdic/cdcb/Medicine/OralHealth/Fluoride/index.htm ,(retrieved March 17, 2004).

California Department of Health Services (2002), Health Data Summaries for California Counties, 2002.

California Department of Health Services (2003), Immunization Branch, *Immunization Levels in Child Care and Schools*, http://www.dhs.ca.gov/ps/dcdc/izgroup/levels.htm .

California Department of Health Services, Office of Binational Border Health. (2000) Report to the Legislature Annual Health Status Report.

California Department of Health Services, Office of Statewide Health Planning and Development (OSHPD), Data from Pesticide Poisoning Cases from 1999, 2000, 2001.

California Department of Health Services. Immunization Branch, *Report on* Fall 2001 Kindergarten Assessment Results.

California Department of Health Services. Immunization Branch, *Report on* Fall 2000 Kindergarten Assessment Results.

California Department of Health Services. Immunization Branch, *Report on* Fall 1999 Kindergarten Assessment Results.

California Department of Health Services, Immunization Branch, Fall 2002 Seventh Grade Assessment Results, http://www.dhs.ca.gov/ps/dcdc/izgroup/pdf/sa.pdf.

California Department of Health Services. Immunization Branch, *Report on* Fall 2001 Seventh Grade Assessment Results.

California Department of Health Services. Immunization Branch, *Report on* Fall 2000 Seventh Grade Assessment Results.

California Department of Health Services. Immunization Branch, *Report on* Fall 1999 Seventh Grade Assessment Results.

California Department of Health Services. Immunization Branch, Facts Sheet-How is California Doing? http://www.dhs.ca.gov/ps/dcdc/izgroup/pdf/howisca.pdf.

California Department of Health Services. *Report on Tuberculosis in California, 2002*, http://www.dhs.ca.gov/ps/dcdc/TBCB/report2002.htm (Retrieved March 26, 2004)

California Environmental Protection Agency. *Report on Environmental Protection Indicators for California (EPIC), 2002* http://www.oehha.ca.gov/multimedia/epic/Epicreport.html (Retrieved March 26, 2004)

California Office of Binational Border Health (COBBH), *Major Current Activities, Projects and Collaboration,* http://www.dhs.cahwnet.gov/ps/dcdc/COBBH/activities.htm (retrieved March 12, 2004).

California State Auditor (1999, April), *California Department Of Health Services:* Has Made Little Progress In Protecting California's Children From Lead Poisoning, Bureau of State Audits.

California STD/HIV Prevention Training Center, 2003. STD Overview For Clinicians Manual. Berkeley, California.

Carroll D, Gabbard S (2003, May 19), California versus Other Farm workers: NAWS in the 1990's presented at the Aguirre International Changing Faces Conference, Asilomar, California.

Center for Chronic Disease Prevention and Health Promotion, *Cervical Cancer and Pap test Information* (2004), Centers for Disease Control and Prevention, http://www.cdc.gov/cancer/nbccedp/info-cc.htm#paptest.

Centers for Disease Control and Prevention (2003, March 19), Hispanic Women in Border States Are Less Likely to Receive Screening for Breast and Cervical Cancers, CDC Press Release.

Centers for Disease Control and Prevention, National Prevention Information Network (NPIN). http://www.cdcnpin.org/scripts/spot_wtd03.asp (retrieved February 10, 2004).

Centers for Disease Control and Prevention (2003, April 18), Preliminary FoodNet Data on the Incidence of Foodborne Illnesses --- Selected Sites, United States, 2002, *Morbidity and Mortality Weekly Report*, 52(15):340-343.

Centers for Disease Control and Prevention (1985, June 21), Epidemiologic tes and Reports Listeriosis Outbreak Associated with Mexican-Style Cheese -- California, *Morbidity and Mortality Weekly Report*, 34(24):357-359.

Centers for Disease Control and Prevention (2001), Childhood Lead Poisoning Associated With Tamarind Candy and Folk Remedies---California, 1999-2000, (2001, August 9), *Morbidity and Mortality Weekly Report*, 51(3):684-686.

Centers for Disease Control and Prevention (1998), Lead Poisoning Associated With Imported Candy and Powdered Food Coloring—California and Michigan, (1998, December 11), *Morbidity and Mortality Weekly R*eport, 47(48):1041-1043.

Centers for Disease Control and Prevention (2003, December 17), National Vital Statistics Reports Volume 52, Number 10, page 5.

Centers for Disease Control and Prevention (2002, December 26), *Community Water Fluoridation is Effective in Reducing Tooth Decay*. Guide to Community Preventive Services.

Centers for Disease Control and Prevention (1995, September 29), *Engineering and Administrative Recommendations for Water Fluoridation, 1995.* Morbidity and Mortality Weekly Report. *Vol. 44, . RR-13.*

Centers for Disease Control And Prevention (2001, August 17), Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States Fluoride Recommendations Work Group. *Morbidity and Mortality Weekly Report*/ Vol.50/ . RR-14.

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2001. Atlanta, GA: U.S. Department of Health and Human Services, September 2002.

Centers for Disease Control and Prevention (2003). *Trends in TB Morbidity-United States, 1999-2002*. MMWR: 52 (216-222).

Centers for Disease Control and Prevention (2001). *Preventing and Controlling TB along the U.S.-Mexico Border: Work Group Report*. MMWR: 50, RR-1.

Centers for Disease Control and Prevention (December 2002), *Activity Report 2001*, CDC's Unintentional Injury Prevention Program., National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention, retrieved February 15, 2004, from http://www.cdc.gov/ncipc/pub-res/unintentional_activity/DUIP_Report.pdf.

Centers for Disease Control and Prevention (1999). Ten great public health achievements-United States, 1990-1999. MMWR Morbidity and Mortality Weekly Report; 48 (12):241-248.

Centers for Disease Control and Prevention (CDC) National Immunization Program- Vaccination schedule: http://www.cdc.gov/nip/recs/child-schedule.pdf.

Centers for Disease Control and Prevention (CDC) National Immunization Survey, http://www.cdc.gov/nip/coverage/NIS/99/antigen_iap.xls (1999), (retrieved February 3, 2004); http://www.cdc.gov/nip/coverage/NIS/02/tab2_antigen_iap.xls (2002).

Centers for Disease Control and Prevention*, Hepatitis B Vaccine*, http://www.cdc.gov/nip/publications/VIS/vis-hib.txt (retrieved February 12, 2003).

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, December *is National Drunk and Drugged Driving Prevention Month*, http://www.cdc.gov/ncipc/duip/spotlite/3d.htm (retrieved February 12, 2004).

Centers for Disease Control and Prevention (1990). The Children of Imperial County. California County Data Book 2001, retrieved February 15, 2004 from The Surgeon General's 1990 Report on the Health Benefits of Smoking Cessation Executive Summary - INTRODUCTION, OVERVIEW, AND CONCLUSIONS (1990, October 5). MMWR, 339(RR-12); 2-109.

Center for Health Statistics, California Department of Health Services. County *Health Status Profiles 2003.*

Centro Nacional para la Prevención y Control del VIH/SIDA (CENSIDA), 2002. VIH y SIDA: 20 Años Después, México.

Chawla M, Rodriguez M, Babey S and Brown R (2003), Diabetes Among Latinos in California: Disparities in Access and Management. *Health Policy Fact Sheet,* UCLA Center for Health Policy Research.

Childhood Lead Assessment in Tijuana, Baja California, México (May 21, 2003), Executive *Summary, A report to the U.S. EPA and CDC. U.S.-Mexico Border 2012 Environmental Health Workgroup, U.S. Environmental Protection Agency,* http://www.epa.gov/orsearth/lead_baja.htm (retrieved February 27, 2004).

Community Health Improvement Partners, Suicide in San Diego County, 1996-2001, http://www.sdchip.org. (retrieved November 18, 2004).

CONAVA: Niňos de 1 a 4 aňos. http://www.conava.gob.mx/vacun/cober3.htm, (retrieved March 11, 2003).

Coughlin S, Uhler, R et al. (2003) Breast And Cervical Cancer Screening Practices Among Hispanic and Non-Hispanic Women Residing Near the United State-Mexico Border, 1999-2000. *Family and Community Health, 26(2),130-139.*

County of San Diego Board of Supervisors and San Diego County Health & Human Services Agency, *Report Card 2002*, San Diego County Child and Family Health and Well-Being.

County of San Diego Childhood Lead Poisoning Prevention Program (2000, Spring), Old Housing and Cultural Traditions Cause Lead Poisoning in Area Children, Lead Update, San Diego County Department of Health and Human Services.

County of San Diego, Health and Human Services Agency. County of San Diego Health Status Report, 2000.

County Of San Diego Childhood Lead Poisoning Prevention Program (2000, Spring), Old Housing And Cultural Traditions Cause Lead Poisoning In Area Children, *Lead Update,* San Diego County Department of Health And Human Services.

County of San Diego Childhood Lead Poisoning Prevention Program (2003, Spring), Candies, *Lead Update,* San Diego County Department of Health and Human Services.

County of San Diego Health and Human Services Agency, Public Health Services, 2003. HIV/AIDS Epidemiology Report 2003. San Diego, California.

Cox D *(*2002), Diabetes Deaths in California 1999-2000, *Center for Health Statistics,* California Department of Health Services.

Cure TB (2003). Poster presentation of The International Union against Tuberculosis and Lung Disease North America Region, 8th Annual Conference. Working Without Borders to Stop TB, February 26-28, 2004. Austin, Texas.

De Aluja AS, Villalobos ANM (2000), Cisticercosis por *Taenia solium* en credos de Mexico, Vat. Mex., 31(3), 239-244.

Department of Health and Human Services, *HIV/AIDS Epidemiology Report: 2003*, County of San Diego

Diamant AL, Babey SH, Brown ER and Chawla N (2003), Diabetes in California, *Findings From The 2001 California Health Interview Survey,* UCLA Center for Health Policy Research

Division of Bacterial and Mycotic Diseases, Foodborne Infections (2003), http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm (retrieved February 19, 2004).

Division of Parasitic Diseases, Centers for Disease Control and Prevention, Amebiasis (2004), Parasitic Disease Information, http://www.cdc.gov/ncidod/dpd/parasites/amebiasis/factsht_amebiasis.htm, (retrieved March 19, 2004).

Division of STD and Hepatitis Prevention (2003), *Sexually Transmitted Diseases*, Public Health Services, Health and Human Services Agency, San Diego County, http://www2.sdcounty.ca.gov/hhsa/documents/STDFactSheet2002.pdf. (retrieved March 23, 2004)

Division of Viral Hepatitis. Centers for Disease Control and Prevention, *Hepatitis B Fact Sheet* http://www.cdc.gov/ncidod/diseases/hepatitis/a/fact.htm, (retrieved February 12, 2004).

Dixon LG, Sundquist J, and Winkleby M (2000), Differences in Energy, Nutrient, and Food Intakes in a U.S. Sample of Mexican-American Women and Men: Findings from the Third National Health and Nutrition Examination Survey, 1988-1994. *American Journal of Epidemiology*, 152(6): 548-557.

Elder RW, Shults RA, Sleet DA, Nichols JL, Zaza S, Thompson RS (2002), Effectiveness *of sobriety checkpoints for reducing alcohol-involved crashes*. Traffic Inj Prev; 3:266-74

Environmental Health Investigations Branch (2002, July), California Department of Health Services*. California Environmental Health Indicators*.

Facer M, 2003. The Epidemiology of HIV among Latinos in California. Fourth Annual HIV/STD Binational Conference, 10 October 2003 San Diego, California.

Farnsworth MC (2004, February), Diversity and Division. San Diego Magazine, http://www.sandiegomag.com/issues/april01/diversity3f1.shtml (retrieved February 20, 2004).

Flapan, D (ed), (2000), Parent's Language Barrier May Prevent Children From Being Insured, *Medscape Medical News*, http://medscape.com/viewarticle/411901 (retrieved March 8, 2004).

Flaskerud JH and Nyamathi AM (1996), Home Medication Injection Among Latin Women in Los Angeles: Implications for Health Education and Prevention. *Aids Care,* 8:1, 95-102.

Fogarty CT and Brown JB (2002), Screening For Abuse in Spanish-Speaking Women, *J AM Board Fam Pract,* 15(2):101-111, from http://medscape.com/viewarticle/432574 (retrieved March 8, 2004).

Frank E, Elon L and Hogue C, (2003, July 23), Transgenerational Persistance of Education as a Health Risk: Findings from the Women Physician's Health Study, Journal of Women's Health, 12 (5):505-512.

Freitas L, 2003. AIDS & HIV for San Diego County. HIV/STD Binational Strategic Planning Meeting, 25 September 2003, Rosarito, México.

Goel MS, Wee CC, McCarthy EP, et al (2003), Racial and Ethnic Disparities in Cancer Screening, *J Gen Intern Med* 18(12):1028-1035.

Granich RM, Balandra S, Santaella JS, et al (2000), Survey of Drug Resistance of Mycobacterium tuberculosis in 3 Mexican States, 1997. Arch. Intern. Med.; 160:639-644.

Hajat A, Lucas JB and Kington R (2000, February 25), Health Outcomes Among Hispanic Subgroups: Data From the National Health Interview Survey, 1992-95, Advance Data From Vital and Health Statistics, Number 310, National Center For Health Statistics.

Healthcare Quality and Analysis Division, Imperial County Healthcare Information. (2001) Healthcare Information Resource Center. http://www.oshpd.cahwnet.gov/HQAD/HIRC/ (retrieved February 15, 2004); Perspectives/Products/1999/imperial_99.pdf; http://www.childrenw.org/california/rc-2001/imperial.pdf.

Healthy Border 2010, October (2003), Published Report, United States-Mexico Border Health Commission.

Homeland Security, San Diego-Baja Issues, July 11, 2003, Binational Annual Conference.

Inkelas M, Halfon N, Uyeda K, et al (2003), The Health of Young Children In California, UCLA Center of Health Policy Research.

Institute for Health Advocacy (1999), Southern California/Baja California Issue Briefing: Problems Related to Cross-Border Transport of Prescription Drugs for Illegal Sale & Use in the U.S.

Institute for Public Strategies (2002, February), Eliminating Promotions for Underage Drinking in Mexico, Issue Briefing: The Border Project www.publicstrategies.org/border_project.htm (retrieved March 3, 2004)

Institute for Public Strategies (2002, June), Cross-Border Drinking Concerns, Fact Sheet: The Border Project www.publicstrategies.org/border_project.htm (retrieved March 3, 2004)

Instituto Nacional de Estadística e Informática. Tabulados Básicos. Baja California. XII Censo General de Población y Vivienda 2000, www.conapo.gob.mx/micros/proymunloc/index.html (retrieved November, 2003).

Kasper J, Gupta S, Tran P, et al (2000), Hunger in Legal Immigrants in California, Texas and Illinois, American Journal of Public Health, 90(10):1629-1633.

Kriner P, 2003. Imperial County Public Health Department: HIV/AIDS Needs Assessment Summary Report 2003. Imperial County, California.

Lampell J (2002, October), San Diego Dialogue, Forum Fronterizo, University of California, San Dialogue. Air Quality and Economic Development Along the California/Baja California Border: Can We Have Both? www.sandiegodialogue.org (retrieved January, 2003).

Lange JE, Lauer B, Voas, RB, A Survey of the San Diego/Tijuana Cross-Border Binging: Methods and Analysis, Pacific Institute for Research and Evaluation and the Institute for Health Advocacy. (Undated unpublished report) http://www.pire.org/articles/border_binging.pdf (retrieved March 4, 2004).

Lange JE, Voas RB, and Johnson MB, South of the Border: Legal Haven for Underage Drinking. Pacific Institute for Research and Evaluation and the Institute for Health Advocacy. (Undated unpublished report). http://www.healthadvocacy.org/pdfs/bp_haven_pire.pdf (retrieved March 3, 2004).

Lead in The Border, Juárez, CHIH.-El Paso, TX, Border Basket, funded by the U.S. Environmental Protection Agency, http://borderbasket.utep.edu/FACTS.htm (retrieved February 27, 2004).

Lozada R, 2003. Evolución de la Epidemia del SIDA en México Programa VIH/SIDA & ITS November 2003 Tijuana, BC México.

Markowitz M, (2000) Lead Poisoning. Pediatrics in Review, 21(10): 327-335.

Martin P, (2003), Impact on Farmworkers of Proposed Water Transfer from Imperial County. A Memorandum to the Latin Legislative Caucus of the California State Senate.

Martin P and Teitelbaum M (2003, January 30), Economic Integration and Mexico-U.S. Migration: A Conference Report.

McCall MG, (2003), Facilitators and Barriers to Changing Health Behaviors, American Public Health Association 131st Annual Meeting, http://medscape.com/viewarticle/466708 (retrieved March 8, 2004).

Morbidity and Mortality Weekly Report. (2002, August 9), Centers for Disease Control and Prevention 51(31): 684-686.

Nathanson CE and Lampell J (2002, January), Identifying Low Risk Crossers in Order to Enhance Security at Ports of Entry Into the Unites States, Forum Briefing Paper, San Diego Dialogue, University of California, San Diego.

National Center on Birth Defects and Developmental Disabilities Fetal Alcohol Syndrome, Centers for Disease Control and Prevention, http://www.cdc.gov/ncbddd/fas/default.htm (retrieved February 13, 2004).

National Center for Chronic Disease Prevention and Health Promotion, Youth Behavior Risk Surveillance, MMWR, (2002, June), 2851: SS-4, Centers for Disease Control and Prevention

National Center for Chronic Disease Prevention and Health Promotion, U.S. Tobacco Exports Fact Sheet (2001, April10), Tobacco Information and Prevention Source (TIPS). Centers for Disease Control and Prevention, http://www.cdc.gov/tobacco/sgr/sgr_2000/factsheets/factsheet_export.htm (retrieved March 3, 2004).

National Center for Chronic Disease Prevention and Health Promotion, U.S.Overview (2003, September 22), Tobacco Information and Prevention Source (TIPS). Centers for Disease Control and Prevention, http://www.cdc.gov/tobacco/issue.htm (retrieved March 3, 2004).

National Center for Chronic Disease Prevention and Health Promotion (2001, August 10), U.S. Comprehensive School Programs Boost Smoking Prevention Success among Oregon Eighth Graders-Press Release. Tobacco Information and Prevention Source (TIPS). 50(31), Centers for Disease Control and Prevention, http://www.cdc.gov/tobacco/sgr/sgr_2000/factsheets/factsheet_export.htm (retrieved March 3, 2004).

National Center for Health Statistics. Health, United States (1999), Hyattsville, MD: U.S. Department of Health and Human Services, 1999

National Center for Infectious Diseases, Centers For Disease Control and Prevention, *Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination: Recommendations of the Immunization Practices Advisory Committee (ACIP)*, http://www.cdc.gov/ncidod/diseases/hepatitis/b/v40rr13.htm#intro (retrieved February 12, 2004).

National Center for Injury Prevention and Control (2002). WISQARS: web based injury statistics query and reporting system. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, www.cdc.gov/ncipc/wisqars (retrieved February 12, 2004).

National Center for Injury Prevention and Control.(2002 June) Centers for Disease Control and Prevention. Department of Health and Human Services. CDC Injury Research Agenda.

National Center for Injury Prevention and Control. Centers for Disease Control and Prevention. Child Injury Data Sheet, http://www.cdc.gov/ncip/factsheets/childh.htm (retrieved February 12, 2004).

National Health and Environmental Effects Research, United States Environmental Protection Agency, http://www.epa.gov/NHEERL/research/human_health.html (retrieved March 22, 2004).

National Institutes of Health, (2003, January 8), Pathways Linking Education to Health, RFA: OB-03-001, Office of Behavioral and Social Sciences Research.

Olivia G, McCandless R, (2001, March 22-23), Health Indicators for California and Youth, Family Health Outcomes Project, Department of Family and Community Medicine, University of California, San Francisco. http://www.ucsf.edu/fhop/docs/health_indicator_ca_children.pdf

Pan American Health Organization (PAHO), Better understanding LBW's association with micronutrients, http://www.paho.org/English/CLAP/invpro13.htm (retrieved March 16, 2004).

Partnership for Food Safety Education, Foodborne Illness: Ten Least Wanted Foodborne Pathogens (April 10, 2003), http://www.fightbac.org/10least.cfm (retrieved February 19, 2004).

Planning and Technical Support Division, California Air Resources Board (2003, January). The 2003 California Almanac of Emissions and Air Quality, http://www.arb.ca.gov/aqd/almanac/almanac03/pdf/almanac2003all.pdf

Ponce NA, Babey SH, Etzioni DA, Spencer BA, Brown ER and Chawla N (2003), Cancer Screening in California: Findings from the 2001 California Health Interview Survey. Los Angeles: UCLA Center for Health Policy Research.

Pylypa, J (2001), Self-Medication Practices in Two California Mexican Communities. Journal of Immigrant Health, 3:2, 59-75.

Richards FO, Schantz PM, Ruiz-Tiben E and Sorvillo FJ (1985), Cysticercosis in Los Angeles, JAMA, 254(24): 3444-3448.

Ross Z, Walker B and Wiles R (2000), Lead Astray: California's Broken Promise to Protect Children from Lead Poisoning. Environmental Working Group Department of Health Services: Has Made Little Progress in Protecting California's Children from Lead Poisoning, (April 1999), California State Auditor, Bureau of State Audits.

Samuel M, 2003. The Epidemiology of STDs among Latinos in California. United States-Mexico Border Health Association Meeting, 27-29 May 2003 San Diego, California.

San Diego County Immunization Section, Immunization Progress, graph showing Percent of Children Fully Immunized, 2003

San Diego County Water Authority, Water Management. San Diego County Water Authority Website, http://www.sdcwa.org/manage/sources-waterquality.phtml (retrieved March 17, 2004).

San Diego Dialogue and Centro de Estudios Económicos del Sector Empresarial de Mexicali, A.C. (1998, March), Survey of Border Crossers: Imperial/ Mexicali Valleys.

San Diego Dialogue (1994, April), Who Crosses the Border: A View of the San Diego/Tijuana Metropolitan Region. University of California, San Diego.

San Diego Regional Asthma Coalition (2003). San Diego County Asthma Report Card.

Sanchez M and Lemp GF, 2003. The Epidemiology of HIV, STDs and TB among Mexican Migrants and Recent Immigrants in California. California Program on Access to Care (CPAC) and University wide AIDS Research Program (UARP) Policy Briefing Meeting, 24 April 2003 Sacramento, California.

Santillanez-Robson E and Lampell J (2002, May), Public Health Preparedness and Emergency Response in our Binational Region, Forum Fronterizo, San Diego Dialogue, University of California, San Diego.

Schieber RA and Vegega ME (Editors) (2002), Reducing childhood pedestrian injuries; Summary of a multidisciplinary conference. Injury Prevention; 8 (Suppl I):i3–i8.

Secretaría de Salud, México, Dirección General de Epidemiología.). SS-EPI-1-95, Sistema Unico de Información para la Vigilancia Epidemiológica.

Secretaría de Salud, México, CONAVA Centro Nacional para la Salud de la Infancia y la Adolescencia, http://www.esalud.gob.mx/wb2/eMex/eMex_Vacunacion_universal (retrieved February 3, 2004).

Secretaría de Salud, México, (2002, December), CONAVA Centro Nacional para la Salud de la Infancia y la Adolescencia: Esquemas Completos de 1 a 4 aňos, Baja California, Diciembre del 2002. Consejos Estatales de Vacunación- PROVAC Información Relevante. http://www.conava.gob.mx/ (retrieved March 10, 2003).

Sexually Transmitted Disease Control Branch Provisional Data, 2003 California Department of Health Services, STD Control Branch, January 2003.

Shepherd MD, Sasane R and McKeithan K (2000), U.S. vs. Mexican Pharmacies http://www.drugsquest.com/mex.vsus.htm. (retrieved June 12, 2001).

Shults RA, Elder RW, Sleet DA, Nichols JL, Alao MA, Carande-Kulis VG et al (2001), Reviews of evidence regarding interventions to reduce alcohol-impaired driving [published erratum appears in Am J Prev Med 2002;23:72]. Am J Prev Med 2001; 21(4S):66-88.

Soloria R, Currier J, Cunningham W, 2003. HIV Health Care Services for Mexican Migrants. California Program on Access to Care (CPAC) and University wide AIDS Research Program (UARP) Policy Briefing Meeting, 24 April 2003 Sacramento, California.

Sorvillo FJ, Portigal L, DeGiorgio C, et al. (2004, March), Cysticercosis-related Deaths, California, Emerging Infectious Diseases, 10(3):465-469.

Statewide Integrated Traffic Reports System (SWITRS), California Highway Patrol, Business Transportation and Housing Agency, State of California. *2001 Annual Report Of Fatal And Injury Motor Vehicle Traffic Collisions*.

Stockman JK, Shaikh N, Von Behren O, Kreutzer R (2003, September), California County Asthma Hospitalization Chart Book: Data from 1998-2000. Oakland, CA: California Department of Health Services, Environmental Health Investigations Branch.

Sundquist, J and Winkleby M, (2000), Country of birth, acculturation status and abdominal obesity in a national sample of Mexican-American Women And Men, International Journal of Epidemiology, 29:470-477.

Taylor L, Henry B (2001), Use of Neo-melubrina, a banned antipyretic drug, in San Diego, California: a survey of patients and providers. Original Research, 175, 159-163.

U.S. Agency for International Development Bureau for Global Health, 2003. Country Profile HIV/AIDS: Mexico. www.usaid.gov (retrieved January 28, 2003).

U.S. Census Bureau (2000), American FactFinder, http://factfinder.census.gov/ ,(retrieved March 22, 2004).

U.S. Citizenship and Immigration Services (2003, January), Executive Summary Estimates of the Undocumented Immigrant Population Residing in the United States: 1990 to 2000, http://uscis.gov/graphics/shared/aboutus/statistics/Ill_Report_1211.pdf (retrieved February 10, 2004).

U.S. Department of Health and Human Services (1999, Jan. 20), Healthcare Access, Quality and Insurance for Low-Income Children, RFA: HS-99-005.

U.S. Department of Health and Human Services. (2001, January) Healthy People 2010 (2nd Edition, 2 Vols.), Objectives. Washington, D.C.: U.S. Government Printing Office January 2001 http://www.healthypeople.gov/Document/HTML/Volume1/14Immunization.htm.\

U.S. Department of Health and Human Services (2000). Oral Health in America, a Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health.

U.S. Environmental Protection Agency (2003). U.S. Mexico Border Environmental Program: Border 2010, http://www.epa.gov/ (retrieved July, 2002).

U.S. Food and Drug Administration (2001, April 25), FDA Alerts Public to Possible Health Risk Associated With Certain Tamarind Lollipops from Mexico, *FDA Talk Paper.*T01-18, www.cfsan.fda.gov/~lrd/tptamari.html (retrieved February 23, 2004).

U.S. Food and Drug Administration (1997, July), Keep Your Baby Safe: Eat Hard Cheeses Instead of Soft Cheeses during Pregnancy, *FDA Brochure*, Center for Food Safety and Applied Nutrition, www.cfsan.fda.gov/~dms/listeren.html (retrieved February 23, 2004).

U.S. Food and Drug Administration (2003, June 30), Raw Oysters Contaminated With *Vibrio Vulnificus* Can Cause Illness and Death, *FDA Talk Paper.*T01-18, www.cfsan.fda.gov/~lrd/tpoyvib.html (retrieved February 23, 2004).

U.S. Food and Drug Administration Statement on Hepatitis A (2003, November 21), FDA *Statement,* www.cfsan.fda.gov/~lrd/fphep-a2.html (retrieved February 23, 2004).

U.S. Environmental Protection Agency. Pesticides: Health and Safety. http://www.epa.gov/NHEERL/research/human_health.html.

U.S.-Mexico Border Health Commission (2003, October). Healthy Border 2010: An Agenda for Improving the Health on the U.S.-Mexico Border. http://www.borderhealth.org/files/res_63.pdf.

U.S.-Mexico Border Health Commission (2003, March), Terrorism and Emergency Response Preparedness Initiative: Strategic Actions and Bilateral Cooperation for Health Security Efforts along the United States – Mexico Border, In Partnership with U.S. – Mexico Border State Health Directors.

U.S. National Library of Medicine and The National Institutes of Health Medical Encyclopedia (2004), MedLine Plus, 7/30/2002 http://www.nlm.nih.gov/medlineplus/ency/article/000298.htm#Definition (retrieved February 19, 2004).

U.S. Office of Water (2001, January), Status Report on the Water-Wastewater Infrastructure Program for the U.S. - Mexico Borderlands. United States Office of Water (4204-M) EPA-832-R-00-001, Environmental Protection Agency, http://www.epa.gov/owm/mab/mexican/usmexrpt/index.htm (retrieved February 19, 2004).

U.S. Public Health Service (1999), The Surgeon General's Call To Action To Prevent Suicide Washington, D.C.

Villarejo D, Lighthall D, Williams D, et al. (2000) Suffering in Silence: A Report on the Health of California's Agricultural Workers, The California Endowment and The California Institute for Rural Studies.

Water Fluoridation Reporting System (WFRS), http://www.cdc.gov/OralHealth/data_systems/index.htm (retrieved March 17, 2004).

Weinberg M, Waterman S, Lucas CA, Falcon VC, Morales PK, Lopez LA, et al (2003 Jan [date cited]), The U.S.-Mexico Border Infectious Disease Surveillance Project: Establishing Binational Border Surveillance. Emerging Infectious Diseases [serial online] http://www.cdc.gov/ncidod/EID/vol91/02-0047.htm

Wilson C (2003, March), Suicide Deaths, California 2000. Data Summary. DS03-03000. Center for Health Statistics, California Department of Health Services.

Wilson C (2002, July), Unintentional Injury Deaths, California 1999-2000. Data Summary . DS02-07002. Center for Health Statistics, California Department of Health Services.

Yeng YY, Babey SH, Malcolm E, Brown ER, Chawla N (2003). Asthma in California: Findings from the 2001 California Health Interview Survey. Los Angeles: UCLA Center for Health Policy Research.

APPENDIX A

Technical Notes

Rates

- A **crude rate** is defined as the number of cases of vital events (e.g., cases or deaths) divided by the population at risk, and then multiplying by some convenient basis (e.g., 100,000). The age composition of communities may greatly influence their rates for certain health events. For example, older communities will likely have higher death rates than younger communities. Rates were calculated by gender, race, age, and county using yearly population estimates by the California Department of Finance.[1]
- **Age-adjusted rates** can be used to make fair comparisons among communities with different age composition. Age-adjusted rates were calculated using the 2000 United States Standard Million Population.

Reliability of Rates

Statistics rates are subject to random variation. Rate estimates based on small number of events (e.g., cases or deaths) are more unstable and, therefore, unreliable, and should be interpreted with caution. The National Center for Health Statistics recommends that death rates can be considered statistically reliable when they are based upon 20 or more events.

Some of the tables in this report include the upper and lower 95 percent confidence interval limits, which provide a means for assessing the degree of stability of the estimated rates. The upper and lower limits define the range within which the rate probably would occur in 95 out of 100 independent sets of data similar to the present set. The wider the intervals, the less reliable the rates. If the 95 percent confidence intervals of two rates overlap, then the difference between the two rates is not statistically significant. However, the reader should be aware that, according to the National Center for Health Statistics[2], “this is a conservative test for statistical significance. Thus, caution need to be observed when interpreting a non-significant difference between rates or proportions, especially when the lower and upper limits being compared overlap only slightly.”

Mortality Data

The following codes from the International Classification of Diseases, 10th Revision (ICD-10) were used for this report:

Cause	ICD-10 Code
Female breast cancer	C50
Cervical cancer	C53
Diabetes-related	E10-E14
Birth defects	Q00-Q99
Motor vehicle crashes	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4- V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Unintentional injuries	V01-X59, Y85-Y86
Suicides	X60-X84, Y87.0

Hospital Discharge Data

For hospital discharges, ICD-9 Codes are still being used.

Cause	ICD-9 Code
Cysticercosis	123.1
Diabetes	250
Acute Pesticide Poisoning	E863
Asthma	493

Communicable Disease Data

The communicable disease data presented in this document are based on reports submitted to the California Department of Health Services by health care providers, laboratories, and other institutions. As is the case with any data obtained through passive surveillance, the following limitations need to be considered when interpreting this report:

- Not all diagnosed cases of reportable diseases are reported to the State. The proportion of under-reporting varies greatly by disease.
- Some case reports have incomplete information (e.g., race/ethnicity).
- Cases identified in a county may have been acquired outside the country. This may be especially true for the border Hispanic population. At the same time, because part of the border population may obtain health care in Mexico, cases acquired in California may never be reported here.

[1] State of California, Department of Finance. Race/Ethnic Population Estimates with Age and Sex Detail. 1970-2040. Sacramento, CA. December 1998.
[2] National Center for Health Statistics, 2003. National Vital Statistics Report, Vol. 52, No. 3.

APPENDIX B

Assembly Bill 63

Assembly Bill No. 63

CHAPTER 765

An act to add Part 3 (commencing with Section 475) to Division 1 of the Health and Safety Code, relating to public health.

[Approved by Governor October 7, 1999. Filed with Secretary of State October 10, 1999.]

LEGISLATIVE COUNSEL'S DIGEST

AB 63, Ducheny. Office of Binational Border Health.

Under existing law, the State Department of Health Services generally regulates issues of public health. Under existing federal law, the United States-Mexico Border Health Commission exists to address specified issues relating to border health.

This bill would create the state Office of Binational Border Health, to facilitate cooperation between California and Mexican health officials and health professionals to reduce the risk of disease in the California border region. The bill would require the office to convene a voluntary community advisory group of representatives of border community-based stakeholders to develop a strategic plan, and would require the office to report its resulting recommendations to the California members of the federal commission, and to prepare an annual border health status report for submission to the Director of Health Services, the Legislature, and the Governor.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) Tuberculosis (TB) disease rates in southern California counties, including Los Angeles, San Diego, and Imperial, are higher than the rest of the state and the nation. Mexican-born patients comprise approximately 30 percent of southern California's reported TB cases, and rates of drug-resistant TB strains have been documented by the United States Public Health Services in a study of border counties to be almost seven times higher among foreign-born Hispanic patients than among United States-born non-Hispanic patients.
(b) Rates of hepatitis A and gastrointestinal illnesses such as shigella are higher in southern California than in the rest of the state and the nation, with the highest rates seen in Hispanics.

(c) Communicable disease tracking by public health authorities is often severely hampered by the movement of infectious cases across the border.

(d) Imperial County does not meet California Environmental Protection Agency standards for ambient ozone levels, at least in part due to increasing traffic at the Calexico-Mexicali border, and Imperial County childhood asthma hospitalization rates have increased annually since 1989.

(e) The New River in Imperial County is the most polluted in the nation, containing more than 100 chemicals and receiving 76 million liters of raw sewage each day.

(f) Recent outbreaks of mercury poisoning related to a beauty cream, and hepatitis A related to contaminated strawberries, underscore the need for better notification systems between United States and Mexican health authorities regarding contaminated commercial products and related investigations.

SEC. 2. Part 3 (commencing with Section 475) is added to Division 1 of the Health and Safety Code, to read:

PART 3. OFFICE OF BINATIONAL BORDER HEALTH

475. (a) (1) The State Department of Health Services shall establish a permanent Office of Binational Border Health to facilitate cooperation between health officials and health professionals in California and Mexico, to reduce the risk of disease in the California border region, and in those areas directly affected by border health conditions.

(2) The department shall administer the office, and shall seek available public or private funding, or both, to support the activities of the office.

(b) The Office of Binational Border Health shall convene a voluntary community advisory group of representatives of border community-based stakeholders to develop a strategic plan with short-term, intermediate, and long-range goals and implementation actions. The advisory group shall include no more than 12 California representatives. The advisory group shall include, but not be limited to, members from local government, hospitals, health plans, community-based organizations, universities, Los Angeles, San Diego, and Imperial County health departments, and a representative from an association of local health officers specializing in border health issues. The office shall invite and request appropriate participation from representatives of the Baja California health department and other Mexican health departments affected by border health issues. Recommendations resulting from the strategic plan shall be developed and shared in consultation with the California appointees to the United States-Mexico Border Health Commission established pursuant to Section 290n of Title 22 of the United States Code, including the Director of Health Services. The office shall prepare an annual border health status report, and shall submit it to the Director of Health Services, the Legislature, and the Governor.

APPENDIX C

Partner Organizations

In order to fulfill its mission, COBBH collaborates and coordinates the planning and implementation of activities with key players involved in health care along the border. The following are brief descriptions of the office's major partners:

COBBH Advisory Group

In keeping with the legislation establishing COBBH, a voluntary community advisory group was established in order to develop, in conjunction with COBBH staff, a strategic plan with goals and actions. It consists of 12 members including representatives from San Diego, Imperial, and Los Angeles County Health Departments, from the California Conference of Local Health Officers, from hospitals, health plans, community-based organizations, and universities.

U.S. Department of Health and Human Services

DHHS agencies, such as the CDC and the Health Resources and Services Administration (HRSA), are implementing several border health initiatives and have officially assigned representatives to COBBH. Specifically, a Senior Public Health Advisor has been assigned to coordinate HRSA funded projects and programs in the region with a focus on access to care issues and CDC has assigned a senior Medical Epidemiologist from the National Center for Infectious Diseases to coordinate border infectious disease issues, as well as a Public Health Prevention Specialist from the Epidemiology Program Office, Division of Applied Public Health Training.

U.S. – Mexico Border Health Commission

In 1994, U.S. Congress passed a law authorizing the President to conclude an agreement with Mexico to establish the USMBHC. The primary charges of the Commission are to assess the public health of border communities, to coordinate public and private resources, and to address the needs and educate the general public on border health issues. The U.S. section includes thirteen members, three of whom are from California. The work of the Commission in California, including outreach, education, needs assessment, data sharing, program and policy development is supported by COBBH, and the Coordinator for the California members is also housed within the Office.

Border Health Offices

The states of Arizona, New Mexico, and Texas established border health offices before such an office was established in California. In addition, the health departments in the counties of San Diego, Imperial, Los Angeles, and Orange have set up offices dedicated to the coordination of border or binational community health improvement activities.

Project Concern International

Project Concern International (PCI) is a nongovernment, international health organization focused on improving the health of children and families. COBBH partners with the Border Health Initiative (BHI), a program of PCI, to build binational coalitions, plan for new strategies, train health care providers and professionals, and build capacity for local health programs and resource development, particularly in the areas of HIV/AIDS, sexually transmitted diseases, tuberculosis, and substance abuse.

United States – Mexico Border Health Association

Since 1943, the U.S.-Mexico Border Health Association (USMBHA) has been a forum for health professionals and government authorities involved in promoting public health to discuss issues of particular concern to the border region. Based in El Paso, Texas, the USMBHA has implemented many binational health projects throughout the border region by establishing and providing support to binational health councils, including one in San Diego-Tijuana.

Pan American Health Organization

The Pan American Health Organization (PAHO) is an international public health agency with almost 100 years of experience working to improve the health and living standards of the people of the Americas. Its mission is to strengthen national and local health systems and improve health, by working with Ministries of Health, other government and international agencies, nongovernmental organizations, universities, community groups, and many others. PAHO has a field office in El Paso dedicated to border health activities.

U.S. EPA Border XXI and Cal/EPA

The U.S.-Mexico Border XXI Program is an innovative binational effort that brings together the diverse U.S. and Mexican federal entities responsible for the shared border environment to work cooperatively toward sustainable development through protection of human health and the environment and proper management of natural resources in both countries. Cal/EPA works with the Border XXI Program, as well as their counterparts in Baja California, to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality of California.

APPENDIX D

Healthy Border 2010

Why Use Healthy Border 2010 to Assess Border Health Status?

The idea of establishing health objectives for the border region was an outgrowth of preparatory work for USMBHC. A team that included the directors of four U.S. border health offices, commission member nominees, and federal staff developed the objectives. The team used four principles to guide the selection of objectives:

a) Address key health issues on the border;
b) Be limited in number;
c) To the extent possible, the objectives should be measurable; and
d) That they should be compatible with federal and state objectives.

The purpose of these health objectives is to assist border health systems to focus on key community health problems and to guide the allocation of health care resources. The objectives are also intended to provide direction to organizations and communities supporting good health through health promotion policies, and to assist individuals in changing health behaviors.

Within each U.S. border state, the Healthy Border program will be implemented in border communities by a consortium of state and local organizations, including the state health department, border health office, local health departments, private health programs, and private businesses. Because the objectives have gone through a rigorous selection process and are being used borderwide, they provide an excellent framework for describing the border region's community health status in California and making comparisons to other regions. Mexico's government is planning to establish similar objectives for the priority health concerns of Mexico's border states from their list of 40 national public health indicators. The USMBHC is committed to integrating initiatives on both sides of the border.

Healthy Border Objectives

A. Access to Care

1. Reduce by 25 percent the proportion of persons lacking access to a primary care provider in underserved areas.
   Related Objective:
   Oral Health: Access to oral health care system.

B. Cancer

2. Reduce the breast cancer rate for women by 20 percent.
3. Reduce cervical cancer death rate for women by 30 percent.

C. Diabetes

4. Reduce diabetes death rate by 10 percent and diabetes morbidity (hospital admissions) by 25 percent.

D. Environmental Health

5. Reduce to zero the proportion of persons living in counties exceeding EPA air quality standards.
6. Reduce to zero the proportion of households not connected to either compliant public sewage systems or septic tanks.
7. Reduce by 50 percent the number of persons hospitalized for acute pesticide poisoning.

E. HIV

8. Reduce the incidence of diagnosed HIV infection cases among adolescents and adults by 50 percent.

F. Immunization and Infectious Diseases

9. Reduce the incidence of hepatitis A and hepatitis B cases by 50 percent.
10. Reduce the incidence of tuberculosis cases by 50 percent.
11. Achieve and maintain immunization coverage rate of 90 percent for children 19-35 months.

G. Injury and Violence Prevention

12. Reduce the motor vehicle crash death rate by 25 percent.
    Related Objective:
    Substance Abuse: Alcohol-related motor vehicle crash deaths.
13. Reduce the childhood (under age five) death rate due to unintentional injuries by 30 percent.

H. Maternal, Infant, and Child Health

14. Reduce the infant mortality rate due to all causes by 25 percent.
15. Reduce the infant mortality rate from birth defects by 30 percent.
16. Increase the proportion of women beginning prenatal care in the first trimester to 85 percent.
17. Reduce the pregnancy rate among 15- to 17-year-olds by 33 percent.
    Related Objective:
    Injury and violence Prevention: Child deaths due to unintentional injuries.

I. Mental Health

18. Reduce the suicide death rate by 15 percent.

J. Nutrition and Obesity

19. Reduce the proportion of adults who are obese to 15 percent.

K. Oral Health

20. Increase to at least 75 percent the proportion of the population served by community water systems with optimally fluoridated water.
21. Increase to at least 75 percent the proportion of children and adults who use the oral health care system each year.

L. Respiratory Diseases

22. Reduce the asthma hospitalization rate by 40 percent.

M. Substance Abuse

23. Reduce the number of alcohol-related motor vehicle crash deaths by 50 percent.
24. Increase the proportion of 12- to 17-year-old youth not using alcohol or any illicit drugs during the past 30 days.

N. Tobacco Use

25. Reduce by 33 percent the proportion of young people in grades 9-12 who have used tobacco products in the last 30 days.

APPENDIX E

Mexican Origin and Mexican-born Population in California Counties, 2000

County	Mexican Origin	% of Mexican Origin	% Increase in Mexican Origin Population, 1990-2000	Mexican-born	% Mexican-born
California	**8,455,926**	**25.0**	**39.3**	**3,928,701**	**11.6**
Alameda	193,011	13.4	65.4	91,854	6.4
Alpine	75	6.2	134.4	13	1.1
Amador	2,347	6.7	53.0	316	0.9
Butte	17,134	8.4	59.2	6,888	3.4
Calaveras	1,916	4.7	64.0	311	0.8
Colusa	7,771	41.3	56.2	4,708	25.0
Contra Costa	112,245	11.8	87.5	50,366	5.3
Del Norte	3,344	12.2	74.5	805	2.9
El Dorado	10,871	7.0	77.0	4,672	3.0
Fresno	302,120	37.8	38.1	111,964	14.0
Glenn	6,973	26.4	55.1	3,896	14.7
Humboldt	6,107	4.8	90.4	2,007	1.6
Imperial	**92,696**	**65.1**	**33.4**	**43,083**	**30.3**
Inyo	1,945	10.8	51.2	833	4.6
Kern	210,828	31.9	54.2	83,328	12.6
Kings	49,943	38.6	57.2	16,496	12.7
Lake	5,226	9.0	104.8	2,053	3.5
Lassen	4,101	12.1	73.7	366	1.1
Los Angeles	3,041,974	32.0	20.7	1,525,157	16.0
Madera	46,989	38.2	66.0	21,398	17.4
Marin	14,202	5.7	66.9	7,280	2.9
Mariposa	978	5.7	80.1	105	0.6
Mendocino	12,233	14.2	80.9	6,560	7.6
Merced	82,701	39.3	56.8	36,495	17.3
Modoc	898	9.5	129.7	347	3.7
Mono	1,892	14.7	118.7	1,108	8.6
Monterey	162,318	40.4	56.0	87,457	21.8
Napa	25,226	20.3	98.7	15,116	12.2
Nevada	3,753	4.1	55.8	1,315	1.4
Orange	712,496	25.0	50.9	389,240	13.7
Placer	17,699	7.1	83.6	5,720	2.3
Plumas	871	4.2	47.1	192	0.9
Riverside	463,465	30.0	74.4	193,432	12.5
Sacramento	150,909	12.3	62.5	47,906	3.9
San Benito	21,908	41.2	41.6	8,336	15.7
San Bernardino	532,186	31.1	65.4	192,737	11.3

APPENDIX E
(CONTINUED)

Mexican Origin and Mexican-born Population in California Counties, 2000

County	Mexican Origin	% of Mexican Origin	% Increase in Mexican Origin Population, 1990-2000	Mexican-born	% Mexican-born
San Diego	**628,460**	**22.3**	**44.9**	**292,749**	**10.4**
San Francisco	48,935	6.3	27.7	22,916	3.0
San Joaquin	144,220	25.6	48.4	56,508	10.0
San Luis Obispo	32,390	13.1	48.1	11,353	4.6
San Mateo	92,939	13.1	46.8	50,638	7.2
Santa Barbara	117,326	29.4	35.2	55,785	14.0
Santa Clara	323,489	19.2	30.3	139,789	8.3
Santa Cruz	58,290	22.8	45.3	30,598	12.0
Shasta	6,582	4.0	84.3	1,553	1.0
Sierra	142	4.0	16.4	53	1.5
Siskiyou	2,657	6.0	37.0	1,108	2.5
Solano	49,095	12.4	65.9	19,659	5.0
Sonoma	63,879	13.9	111.6	35,765	7.8
Stanislaus	119,252	26.7	68.4	50,781	11.4
Sutter	15,138	19.2	69.5	7,892	10.0
Tehama	7,429	13.3	68.9	3,447	6.2
Trinity	346	2.7	12.3	5	0.0
Tulare	163,401	44.4	44.1	68,504	18.6
Tuolumne	3,394	6.2	24.6	336	0.6
Ventura	211,925	28.1	34.9	95,004	12.6
Yolo	36,699	21.8	54.7	16,336	9.7
Yuba	8,587	14.3	62.2	4,062	6.7

Source: U.S. Census Bureau. Profiles of General Demographic Characteristics. Available: http://www2.census.gov/census_2000/datasets/demographic_profile/California/2kh06.pdf Accessed: Nov. 2003; AmericanFact Finder. Available:*http://factfinder.census.gov/*

APPENDIX F

STRATEGIES TO IMPROVE BORDER HEALTH BY THE CALIFORNIA OFFICE OF BINATIONAL BORDER HEALTH (COBBH) AND ITS PARTNERS

COBBH, with its partners, has already taken many steps to improve the health status of those living in the California border region. This section provides a summary of activities and strategies conducted to improve health care in the border region.

California Office Of Binational Border Health (COBBH)

Overview: During 2003, COBBH made significant strides towards solidifying its structure and defining the role it plays within the California Department of Health Services (CDHS). The most notable achievements in this regard were the completion, in collaboration with the Advisory Group, of a five-year strategic plan and the successful transfer of the CDHS contract to operate the office to the University of California at San Diego (UCSD). In addition to taking these steps, COBBH was asked to add two major initiatives, one in the area of migrant health and another in BT prevention and response planning. By the end of the year, COBBH was able to complete many activities that had a measurable impact towards improving the health of the communities in the border region and throughout the state. The following is a summary of these activities listed under the seven objectives selected by staff during the strategic planning process as the main areas of concentration:

Increase capacity to collect, analyze, and disseminate data:

- This report compiles data from many sources and analyzes the border region's health status based on the "Healthy Border 2010" community health indicators.
- A reference library and data repository maintained in COBBH on border and binational issues located in the office. This resource will be made available to health care professionals and graduate students conducting research.

Enhance coordination and exchange of health information between agencies in California and Mexico:

- Meetings were held by a core group of epidemiologists from Mexico and the United States to discuss the creation of a manual that will serve as general guidelines for dealing with binational information and data exchange. This document will be used for protocol specific to California and Baja California.

- COBBH attended the annual meeting of the Border Infectious Disease Surveillance (BIDS) project held in Cuernavaca, Mexico, and helped put together a California/Baja California regional meeting to discuss issues regarding information and data exchange.
- COBBH participated in the development of a U.S.-Mexico West Nile virus draft protocol and attended a meeting in Nuevo Laredo where a binational collaborative agreement in this area was signed by both nations.
- COBBH assisted the County of San Diego Community Epidemiology division in its efforts to include key representatives from Mexico in the Emergency Medical Alert Network (EMAN) and EPI-X email alert network. This was the first time that non-U.S. personnel have been included.
- COBBH participated in two high profile binational health efforts that received wide media coverage: mosquito eradication efforts following the diagnosis of California's first case of West Nile virus in Imperial County and the investigation of hepatitis virus contamination in green onions in Baja California fields.
- COBBH collaborated with the U.S.-Mexico Border Health Association (USMBHA) and Baja California on binational environmental health and food safety indicators.
- Meetings were held with representatives from the seven Mexican states from which the greatest number of migrant workers in California originate. The goal was to provide information on health services offered by both government and private agencies that are available to Mexican citizens residing in California.
- COBBH arranged three meetings between Sandra Shewry, the CDHS Director, and Dr. Francisco Vera, Baja California's Secretary of Health. As a result, communication channels were established that proved to be useful in dealing with media reports of potential West Nile virus cases.

Increase border health care professionals' competency in public health surveillance methodologies:

- Working in conjunction with the California-Mexico Health Initiative (CMHI), COBBH initiated a pilot project to implement a simplified epidemiological surveillance system for key diseases in Imperial County and San Diego County. Progress to date includes the identification of participating sites and instrument development.
- In response to a request from the Baja California government, COBBH staff organized workshops to train Mexican health personnel in how to install mosquito traps and test for the presence of West Nile virus.
- Working with partners such as the County of San Diego, USMBHC, USMBHA, and UCSD's Border Health Network program, training seminars were conducted in various areas including GIS technology, drug-resistant TB, accident prevention, and trauma care. COBBH helped procure tuition reimbursement to enable key Mexican health professionals to take advantage of these events.

Determine protocols for ongoing communication and collaboration between Baja California and California:

- CDC has agreed to let COBBH pilot a binational health forum for EPI-X (epidemiological exchange of information on a secure site). The forum includes participants from both nations and from the sister-state levels. This is the first of its kind and COBBH has been piloting it with the BIDS project's West Nile virus.
- COBBH has been actively engaged in discussions to improve the border region's preparedness through EPI-PAR (epidemiology and preparedness) and emergency medical services with San Diego County.
- Protocols of communication and data exchange are being developed with epidemiologists at the federal and local levels, as well as other personnel involved in BT preparedness and response.

Improve the infrastructure for providing public health services in the border and binational regions:

- COBBH has worked with the County of San Diego on implementing a project funded by a CDC BT grant. Computers and Internet connections were purchased and installed in various laboratories in Baja California. Mexican laboratory staff was trained and is enrolled in the County's EMAN system (secure notification system).
- COBBH developed survey tools and implemented an assessment of the communication and information technology resources in key sites in Baja California that would be involved in responding to a BT event or public health emergency. A series of meetings were held with health authorities and civil protection agencies in Baja California. Once this assessment is completed and gaps in communication equipment are identified, BT funds will be made available to Baja California for the purchase and installation of improvements. Towards this end, COBBH staff has been working with USMBHC to identify the best mechanism for transferring funds and equipment across the border.

Actively participate and play a leadership role in binational meetings that address priority areas in border health:

- COBBH worked with the Latino Coalition for a Healthy California to conduct a forum on Latino and border health issues.
- Following up on commitments made by the CDHS Director in a meeting with Mexico's Secretary of Health, COBBH convened a meeting in Tijuana between the CDHS Director and representatives from seven Mexican states. The purpose of the two-day gathering was to discuss health services available to immigrants in California and to find ways for state and local agencies in the United States to better communicate with health care providers in the migrant workers' communities of origin.

- COBBH staff assumed a lead role in the overall organization of the 61st annual meeting of the USMBHA.
- COBBH helped organize and implement activities during the third annual Binational Health Week, including a migrant health forum in San Diego County and a statewide event held at the University of California at Los Angeles. Among those attending this event was Mexico's Undersecretary of Health, Mexican legislators, the Mexican Ambassador to the United States, the CDHS Director, as well as many representatives from federal, state, and local agencies in California.
- Staff prepared a presentation on overcoming obstacles to binational collaboration and working effectively with Mexico. This was presented by the CDHS Director at the annual meeting of the American Public Health Association in San Francisco.

Increase health professionals' capacity to address border health issues in a culturally competent manner:

- COBBH established a Memorandum of Understanding (MOU) with the Graduate School of Public Health at San Diego State University (SDSU) in order to conduct research and organize professional trainings and educational workshops related to binational and border health topics.
- Activities undertaken under this MOU included a research project in conjunction with SDSU and the Universidad Autónoma de Baja California (UABC) dealing with health conditions of migrant farm workers in San Quintin, Baja California.

County of San Diego Border Health Activities

County of San Diego Commitment

Since 1993, the County of San Diego has demonstrated a strong commitment to facilitating collaborative border health activities with CDHS and other organizations. County personnel are actively involved in numerous local and cross-border health activities ranging from membership in binational health committees, participation at border health conferences, and development of cross-border projects.

At present, office space is provided for 20 federal, state, and local border health staff persons, including two County of San Diego employees, in the County of San Diego Health Services Complex. The County of San Diego recognizes the complex jurisdictional nature of U.S.-Mexico border health and supports the multi-agency government approach.

County of San Diego Border Health Highlights:

COBBH Strategic Advisory Committee

The County of San Diego has participated as a member of the COBBH Strategic Advisory Group since 1998. In coordination with CDHS, the advisory group has developed a binational border health strategic plan for California and COBBH.

CURE TB/+

With more than six years of experience and funding, the County of San Diego Binational CURE TB/+ Project has facilitated the exchange of information about hundreds of cases of tuberculosis and/or HIV-positive people who live on both sides of the U.S.-Mexico border. Project staff receives referrals, provides consultation, and arranges for continued care. The project is currently working to facilitate the reporting of TB patients that have U.S. health insurance coverage and utilize Mexican health care providers. CURE TB/+ has also contributed to the development of on-going binational professional education programs.

BT Border Laboratory Project

The County of San Diego Public Health Laboratory, in collaboration with COBBH and Baja California Secretariat of Health, completed a series of activities to strengthen BT capabilities in public health laboratories on both sides of the U.S.-Mexico border. CDC BT protocols were translated into Spanish and reviewed by U.S. and Mexican federal, state, and local health officials. Staff from six Mexican public health laboratories received BT laboratory training. Cross-border meetings to formalize binational protocols continue.

HIV/AIDS

The County of San Diego Community Epidemiology and Office of AIDS, in collaboration with CDHS, CDC, and Mexican health officials, have conducted numerous binational research projects to determine the prevalence of HIV/AIDS in the San Diego-Tijuana area. Besides other on-going binational educational activities, the county's Health and Human Services Agency (HHSA) co-hosted the fourth annual Binational AIDS Conference in Tijuana in November 2003. More than 500 presenters and participants from the United States and Mexico were expected to make presentations and discuss the control and prevention of HIV/AIDS in the U.S.-Mexico region.

Binational Infectious Disease Surveillance System (BIDS)

The County of San Diego Community Epidemiology, in coordination with CDC, COBBH, Tijuana health officials, and private health care providers in clinics and hospitals, conduct a binational surveillance system for early cases of new and emerging diseases. Binational protocols for hepatitis, smallpox, and more recently West Nile virus have been developed.

Emergency Medical Services (EMS)

County of San Diego Emergency Medical Services, in collaboration with UCSD Extension, conducted several cross-border trauma and EMS trainings, including a tour of the County EMS System for Mexican Emergency Services officials. On-going discussions are focused on binational coordination of ambulances and other EMS services.

U.S.-Mexico Border Health Association (USMBHA)

The County of San Diego provides support to the local chapter of the USMBHA, the San Diego-Tijuana Binational Health Council (BHC). BHC's committees provide educational workshops and conferences, and develop binational projects in the San Diego-Tijuana region. The BHC committees include AIDS/STDs, tuberculosis, immunization, EMS, substance abuse, and mental health.

Binational Immunization Initiative

Co-chaired by staff from County of San Diego Immunization and Tijuana Secretariat of Health, the Binational Immunization Initiative meets monthly to share information and develop binational immunization activities targeting children in the San Diego-Tijuana region. The Initiative developed a Binational Immunization Card for health care providers and hosted the second annual binational conference in Tijuana in September 2003. A proposal to develop a binational immunization registry is being considered by the USMBHC.

Farm Worker Task Force

The task force meets quarterly with local, state, and federal government agencies, community-based organizations, community health clinics, and employer and labor farm organizations. The group participated in local health fairs; developed educational materials for farm workers, employers, and health care providers; and hosted more than 150 community health workers to discuss occupational health and safety issues related to asthma, pesticides, lead, and water and air contamination in September, 2003. Other activities include public education regarding West Nile virus and Newcastle's Disease.

California-Mexico Health Initiative Third Annual Binational Health Week

The County of San Diego supported the University California (UC) Project with a mass media campaign targeting Spanish-speaking uninsured children during the third annual Binational Health Week in October 2003. The UC project targets seven counties in California and seven states in Mexico related by U.S.-Mexico migration to enhance coordination of health information and services.

Border Public Health Facility Project

In February 2003, the County of San Diego in collaboration with COBBH initiated a border public health assessment to determine the need for a Border Public Health Facility located at the San Ysidro-Tijuana Port of Entry. The assessment will define border health funding priorities. Meetings were held with border health professionals to assess needs, resource gaps, and opportunities for collaboration and funding. Follow-up meetings will include other community stakeholders and representatives from San Diego County and Mexico.

San Diego-Tijuana Mental Health Work Group

Since January 2003, HHSA staff has convened several meetings to address the growing number of chronically mentally ill people who speak Spanish only and live in the San Diego-Tijuana border region. County Psychiatric Hospital staff met with Tijuana health officials to identify areas of collaboration, including consultation on the new psychiatric hospital in Tijuana. Other activities include binational trainings and tours of agencies that work with victims of domestic violence in the San Diego-Tijuana region.

Operation Safe Crossing

The County of San Diego has supported binational Alcohol and Drug Services interventions to address teen binge drinking in the San Diego-Tijuana region. Nearly five years of collaboration between law enforcement, tourism, health, education and community agencies have reduced the number of under-age youth that cross the San Diego-Tijuana border.

USMBHC – California Outreach Office

The following is a report on the main activities that the USMBHC California Outreach Office (COO) has conducted in collaboration with COBBH during 2000-2003:

Special Border Projects

COO, in collaboration with COBBH, developed a manual entitled Public Outreach and Education Plan for Policymakers to assist health professionals in better understanding their local and state legislative system and provide them with specific examples and suggestions on how to effectively communicate their public health concerns to policymakers. COO also supported the efforts of the two California-Baja California binational health councils (San Diego-Tijuana and Imperial-Mexicali), as well as other local binational health groups.

Consult and Collaborate with Other Entities; Periodic Meetings and Public Health Forums

COO has conducted meetings with community members, health organizations, policymakers, officers of foundations, and other border health stakeholders. These meetings were essential in increasing the awareness of the Commission's work and in building alliances with the community and institutions working on border issues. The California Delegation Commission Members informed local Congressional representatives of the mission and goals of the Commission and its initial work in California.

Needs Assessment, Investigations, and Research

COO has promoted the Healthy Border 2010 Program by participating and helping to organize planning meetings and local binational activities targeting the top border health priorities in the sister cities of Imperial-Mexicali and San Diego-Tijuana.

Information, Technology, and Communications

Brochures, fliers, and other materials describing the mission, objectives, activities, successes, and periodic meetings of the COO and COBBH have been designed and distributed. Copies of materials related to the Commission and California Delegation have been distributed via mail and at meetings to inform the community on border health issues. In partnership with COBBH and the San Diego County Border Health Office, a binational toll-free line was established to facilitate communication between health authorities in the United States and Mexico. This toll-free line can be accessed from anywhere in Mexico (001-888-531-7484), or the United States (1-888-531-7484).

Health Promotion and Disease Prevention, Support to Other Entities

The Healthy Border Program was established through the USMBHC's binational agenda of health promotion and disease prevention based on the framework of the Healthy Border 2010 report, and incorporates the U.S. Healthy Gente Program recommendations and Mexico's National Health Indicators assessment outcomes. The publication of "Healthy Border 2010: An Agenda for Improving Health on the United States-Mexico Border" marks an important milestone for the Healthy Border Program. The document illustrates a binational effort to determine baseline data for 20 priority health indicators and to establish 2010 year targets for the United States and Mexico.

The COO has specifically promoted the Healthy Border 2010 agenda via the following five main activities and projects:

Healthy Border Project, Asthma Control: The Imperial County Public Health Department, working closely with a local collaborative and with the support of the COO, has completed the first phase of a project to address high asthma hospitalization rates.

California-Baja California Health Committees: Funding was allocated to support the binational health committees' infrastructure in the California-Baja California border region as a result of several meetings held among the California and Baja California Delegations and the local Binational Committees.

Tuberculosis DOT Project with Community Health Workers in Tijuana: The COO, in collaboration with the Tijuana Health Department (ISESALUD) and Project Concern International, has supported the implementation of an outreach strategy to improve the control of tuberculosis in Tijuana.

Ventanilla de Salud Project: As part of a two-year pilot project, two health stations were opened in 2003 for the public visiting Mexican consulates in San Diego and Los Angeles. The COO and CMHI assisted in the development and implementation of this collaborative project funded by The California Endowment. Through this project, health educators and case managers are able to reach one of the most underserved sectors of the Latino community.

Tijuana General Hospital Auxiliary: The Tijuana General Hospital is a public institution with a scarce budget that receives the most underserved patients of the region. COO assisted in the development of an auxiliary (*patronato*) for the Tijuana General Hospital. The COO has provided in-kind support to the Tijuana General Hospital Auxiliary to improve its fundraising capacity.

Migrant Health Activities: COO has closely collaborated with CMHI on several projects and events to address the needs of the U.S.-Mexico migrant community, including a Binational Health Week.

Border Infectious Disease Surveillance

The Border Infectious Disease Surveillance (BIDS) project is designed to conduct infectious disease surveillance in the U.S.-Mexico border region. The region is characterized by limited public health services and poor environmental conditions. These factors contribute to an increase in the prevalence of many infectious diseases. The BIDS project is syndrome-based with laboratory confirmation. The two syndromes under surveillance are hepatitis and febrile rash illness; surveillance for a third disease, West Nile virus, was added in 2003. The BIDS project was created in response to a binational consensus among public health officials about the need to establish an active surveillance system to complement and enhance existing passive systems for infectious disease surveillance along the border.

Objectives

- Enhance public health infrastructure by improving local laboratory diagnostic capabilities and nurturing a closer collaboration between clinical medicine and public health.
- Improve binational communications and data exchange.
- Improve feedback of public health information to clinicians.
- Use the data collected to develop binational prevention and control strategies.

Sentinel Sites in San Diego

On October 29, 1999, the BIDS project was initiated in San Diego County. The first sentinel sites were Scripps Otay Family Health Center and Children's Primary Care Medical Group (June 2000), followed by San Ysidro Health Center and Children's Hospital (June 2001), Sharp Chula Vista Hospital (January 2002), and Scripps Mercy Hospital (July 2003). These sentinel sites differ in their populations, services offered, and number of admissions per day. In Children's Hospital and Sharp Chula Vista, for example, screening is done in the emergency room.

In 2003, the BIDS project was consolidated in five sentinel sites in San Diego County: Scripps Otay Family Health Center and the pediatric practice of Dr. Willy Rios, Children's Primary Care Medical Group, Sharp Chula Vista Hospital, Children's Hospital, and San Ysidro Health Center. A sixth sentinel site, Scripps Mercy Hospital, joined the BIDS project in July. In Imperial County, BIDS started implementation in August 2003 in Pioneers Memorial Hospital emergency department.

In San Diego County, approximately 58,900 patients were evaluated at the six operating clinic sites in 2003. By December 22, 2003, 155 patients fulfilling the BIDS screening criteria had blood or cerebral spinal fluid (CSF) samples taken.

Of the 18 patients meeting the BIDS hepatitis criteria, the following were confirmed by laboratory testing: five cases of hepatitis A; two putative cases of hepatitis E acute; and one case of past infection of hepatitis E. Of the 74 patients meeting the BIDS febrile exanthem criteria, all were negative for the diseases tested in the project. Four of the five hepatitis A cases, and one acute hepatitis E case had a travel history to Mexico during their illness and so were considered to be binational cases. All confirmed cases identified through the BIDS project were reported to San Diego County Community Epidemiology. In Imperial County, one patient fulfilled hepatitis screening criteria. Two cases met the febrile exanthem criteria, one of which also met the criteria for West Nile virus.

West Nile virus (WNV) surveillance was initiated in July 2003 in three sentinel sites in San Diego County (Children's Hospital, Sharp Chula Vista, and Scripps Mercy) and in Pioneers Memorial Hospital in Imperial County. Of the 67 patients meeting screening criteria in San Diego County, all were negative for WNV. Of the 63 patients meeting WNV screening criteria in Imperial County, one tested positive for the disease.

In 2004, California will continue to consolidate active sentinel surveillance in all participating sites in San Diego and Imperial Counties. Encephalitis surveillance will be expanded to other participating clinics. The California BIDS staff will continue to coordinate with state and local BT surveillance activities and may expand syndromic surveillance for BT agent syndromes at BIDS sites. Acute vesicular rash surveillance is of particular interest. The synergy between BIDS and the local health department will strengthen both local BT and ongoing binational active surveillance activities and demonstrates the flexibility of the BIDS project.

The confirmed febrile exanthem cases were the following: one outbreak of measles in July 2001; seven cases of measles IgM+/MMR vaccine related; and two adult rubella cases, one imported from the Philippines. All confirmed cases were reported to the County of San Diego Community Epidemiology division.

Other activities

- Participated and collaborated in the planning of the third annual BIDS meeting in San Diego. About 100 federal, state, and local representatives attended the meeting from the United States and Mexico.
- Made a poster presentation in June 2002, at the USMBHA annual meeting in Chihuahua, Mexico.
- In November 2002, the San Diego County BIDS coordinator participated in a regional BIDS meeting between California and Baja California BIDS coordinators, where she gave a presentation on local BIDS data, challenges, and future plans for the project.

Activities During 2003

- The San Diego County BIDS team participated and collaborated in the planning of the 61st annual meeting of the USMBHA in San Diego on May 2003. About 500 federal, state, and local representatives from both countries attended the meeting. Team members also gave oral and poster presentations at the meeting.
- A preventive medicine resident from UCSD-SDSU assisted with the implementation of WNV surveillance at Scripps Mercy Hospital. A graduate student from SDSU was in charge of doing the follow up for all patients screened for WNV testing at the BIDS clinics.
- In September 2003, Mexico hosted the fourth annual BIDS meeting in Cuernavaca, Mexico. More than 100 federal, state, and local representatives attended the meeting from both countries. The San Diego BIDS team gave presentations about local BIDS issues.
- During 2003, CDC, California, and the San Diego BIDS Coordinator provided training to the Imperial County BIDS Coordinator.

California Border/Binational Health Collaborations with the Centers For Disease Control And Prevention (CDC) on Infectious Disease Prevention and Control (in addition to BIDS)

TB Binational Case Management Project and Evaluation

The U.S.-Mexico Binational TB Referral and Case Management Project was proposed by Mexico in late 2000 during the inauguration of the U.S.-Mexico Border Health Commission. The project designed in concert with the United States is aimed at the effective support of migrant patients undergoing treatment for active TB disease. TB control personnel from both countries want to ensure the continuity of care during prolonged treatment regimens necessary to eliminate TB, thereby preventing the emergence of drug resistance.

CureTB and TB*Net* programs established by the San Diego County Health and Human Services Agency and the Migrant Clinicians Network, respectively, have been providing binational referral services for binational TB patients for several years. Through the use of a Binational Health Card, this new program will build upon and integrate the efforts of CureTB and TB*Net* and link their referral services directly with a similar effort by the Mexico National TB Program for the first time. Specifically, this new project will rely upon the infrastructure already established by CureTB.

The goals of the U.S.-Mexico Binational TB Referral and Case Management Project are to:

1. Demonstrate that continuity of care can be provided for patients receiving treatment for active TB disease while moving across the U.S.-Mexico border.
2. Strengthen treatment outcomes for binational TB patients for whom treatment was initiated before moving.
3. Improve data collection for patients for whom treatment was initiated before moving across the U.S.-Mexico border.

In order for the U.S.-Mexico Binational TB Referral and Case Management Project to be successful, it is vital to ensure the trust of the binational patient to facilitate the use of the card without any risk with respect to the patient's legal status and human rights.

The Binational Health Card is a tool that will be used in a broader binational information system for TB case management. This broader system requires both a cross-border referral component and an information system component. With respect to the cross-border referral system, experience from existing models such as those used by CureTB and TB*Net* has been drawn upon. With respect to an information system, the information gathered as part of this project will

allow measurement of the binational TB population, the monitoring of treatment outcomes of the affected population, and other epidemiological outcomes. It is crucial to coordinate the information bilaterally, in order to have an efficient and integral analysis of the information from both countries. This will lead to effective detection of cases, as well as case management and cost-effective follow up along the border, taking into account the cost of the actual treatment and the loss of work hours from a population at its most productive age.

As part of this project, CDC and the Mexican National Center for Epidemiological Surveillance plan to publish an annual binational TB report with demographic, geographic, and epidemiological data.

The pilot project was implemented in San Diego/Tijuana in the latter half of 2003 with ongoing evaluation and expansion to other sites throughout the country in 2004. To date in San Diego County, 112 cards have been distributed, with eight referrals to Mexico. In Tijuana, 267 cards have been distributed with one patient moving to San Diego.

Core Group on Epidemiology and Surveillance

The U.S.-Mexico Binational Commission is an annual convening of federal cabinet officials from the United States and Mexico to carry out a dialogue on binational issues including trade, diplomacy, and health. Among the several health “core groups” is a new work group on epidemiology and surveillance first proposed in 2002. U.S. states including California participate in this “core group,” whose objective is to complete binational guidelines for epidemiologic information exchange between the United States and Mexico in 2004. This effort is a cutting-edge negotiation that will likely serve as a model for the World Health Organization for cooperation between nations in epidemiology and disease control.

The principle of epidemiologic information exchange goes to the heart of public health cooperation between the United States and Mexico. While U.S. states have no legal prohibition to sharing health information internationally, Mexican states cannot act without the approval of the Federal Government.

The current thinking on proposals for epidemiologic cooperation are the following. When an epidemiologic event occurs involving both countries and both have an interest in investigating the event (such as an outbreak investigation), the two countries should make a determined effort to conduct the investigation together. The national public health agency of the country in which the initial disease report or outbreak has taken place has jurisdiction and will assume the coordinating role. Each country should be expected to provide the technical and financial support needed for cooperation. Sharing of resources, such as laboratory testing, may be necessary and should be negotiated in a timely fashion. The timeliness of the investigation should be accorded a high priority by both countries.

The proposed outline of the binational guidelines includes the following components:

- Guidelines for Binational Cases
- Guidelines for Outbreaks
  - Guidelines for Foodborne Outbreaks
  - Guidelines for Potential terrorist events
  - Laboratory-related Guidelines
  - Guidelines for Environmental-related Events
  - Guidelines for Travel Advisories
- Specific Guidelines on Public Health Communications
  - Guidelines on Communications between Public Health Agencies
  - Guidelines regarding Release of Information to the Public

Border Bioterrorism Preparedness Cooperative Agreement Supplemental Funding

In 2002, CDC made available supplemental funding to California and other U.S. states for terrorism preparedness to address planning, epidemiology and surveillance, laboratory, health information systems, training, and health communication to the public. Border states such as California received guidance to apply some of this funding to address border terrorism preparedness issues. In 2003, DHHS made available through CDC additional funds specifically for use by border states to address border epidemiology and surveillance issues. A total of $1,059,378 was made available to California in 2003-04 for this purpose. An additional $5.5 million was awarded by DHHS to the USMBHC for complementary activities in Mexican border states including Baja California. The CDC guidance to U.S. states with regard to border terrorism preparedness for early warning surveillance included the following suggested activities:

- Hire full-time masters or doctoral trained or equivalent epidemiologist(s) (bilingual, as appropriate) and/or public health nurse(s) devoted to BIDS activity.
- Integrate activities with existing CDC funded cooperative agreement programs such as the BIDS and Emerging Infections projects.
- Consider expansion of BIDS project in other sister city geographic areas with significant border crossings.
- 24/7 binational border infectious disease surveillance coverage plan.
- Piloting severe acute vesicular rash surveillance in BIDS program sentinel sites or in specific counties.
- Planning and participating in binational terrorism preparedness tabletop exercise(s) with surveillance and epidemiology components.
- Binational surveillance and epidemiology training workshops.
- Integrated Regional Binational Laboratory Response Network.
- Binational laboratory training.
- Binational laboratory reagent and specimen transport plan, when appropriate.
- Budget for reagents for active BIDS and BT testing.
- Development of cross border videoconferencing capacity.

• California Border/Binational Health Collaborations with the Health Resources and Services Administration (HRSA) on Access to Health Care and Services

From 1999 through 2003, HRSA has invested more than $159 million in partnerships with border communities and the State of California to provide border residents with primary health care, maternal and child health care services, HIV/AIDS care, and programs to train and place health professionals where needed most. These partnerships described below and others represent a key component of the HRSA Border Health program effort in California.

Presidential Expansion of Federally Qualified Health Centers (FQHC)

Access to health care is critical along the border. In response, HRSA has doubled the number of FQHC along the border in fiscal year 2002 and even more achieved FQHC status in FY 2003. This is significant because over 90 percent of FQHC patients are below 200 percent of the federal poverty level. HRSA resources have provided border residents with primary health care, maternal and child health care services, HIV/AIDS care and other services, and have also supported programs to train and place health professionals in the region. Many of these newly designated FQHC have implemented or expanded their medical, dental, and mental health services for their border residents.

U.S.-Mexico Border HIV/AIDS Special Projects of National Significance

The HIV/AIDS Special Projects and National Significance, in its third year of funding, is increasing the number of trained skilled health care professionals caring for HIV/AIDS patients along the border. In addition, the HRSA-funded AIDS Education Training Center has implemented new models for HIV treatment and care and has provided education and training to health care providers and administrators in clinics. Ryan White Title III Planning and Capacity Building grants were awarded to several sites along the U.S.-Mexico border including one in San Diego to build and strengthen the HIV/AIDS services provided.

Community Access Program

Imperial County has received over $2 million for their HRSA Community Access Program which links primary care, mental health, and social services together to create a linked “open door” for patients wishing to access these services.

The Council of Community Clinics serving San Diego and Imperial Counties has received about $1.5 million for their HRSA-funded Community Access Program that will greatly improve the outreach, treatment, and follow up of diabetes patients living along the border.

Advanced Education Nursing Grants and Traineeships

Over $1.8 million Advanced Education Nursing Grants and Traineeships have been awarded to SDSU and the UCSD over the last three years.

Hospital Health Professional Training Support

Since 2001, over $1.5 million has been awarded to Children's Hospital-San Diego and assistance to four other hospitals in the San Diego border area has totaled over $2 million for various health care professional training and support programs.

Ten Against TB

HRSA has partnered in the Ten Against TB binational effort to work with health officials from all U.S.-Mexico border states to help curb the growing number of tuberculosis cases along the border.

Border Vision Fronteriza

The HRSA-sponsored Border Vision Fronteriza program reaches out to thousands of families to enroll their children in California's Healthy Families insurance program and Medicaid through the efforts of well-trained promotoras to assist families with the application process.

Salud Para Su Corazon

Salud Para Su Corazon is a HRSA and NIH jointly-sponsored program that addresses the high rate of cardiovascular disease along the border. Promotoras are recruited and trained to reach out to families at risk and assist the entire household in identifying and minimizing the risk of cardiovascular disease. Over the months of working together, the promotoras urge families to seek routine health screenings, make lifestyle changes including improved diets, more physical exercise, and other important changes to reduce the risk of high blood pressure and diabetes linked to cardiovascular diseases.

BT Preparedness

HRSA has provided several million dollars to prepare hospitals, poison control centers, emergency medical services, health centers and public health departments in the event of a threat. The mission, especially along the border, has been to ready hospitals and supporting health care systems to deliver coordinated and effective care to victims of terrorism and other public health emergencies.

Priority areas are:

- Hospital and health center surge capacity for adults and children;
- Strengthening emergency medical services response;
- Links to public health departments;
- Education and preparedness training; and
- Conducting terrorism preparedness exercises.

Future Challenges

The challenges along the California border are being addressed through a coordinated and sustained effort by the State of California, HRSA, and many partners at the local and federal level. HRSA will continue its goals of:

- Increasing access to health care;
- Improving child health;
- Eliminating health disparities;
- Improving environmental health; and
- Improving the health status of all who live and work along the border.

California-Mexico Health Initiative

The California-Mexico Health Initiative (CMHI) was created in January 2001 under the auspices of the California Policy Research Center of the University of California, Office of the President. It is a collaborative effort involving government, academia, private sector, and community-based organizations of both countries.

CMHI's objective is to coordinate and optimize the availability of health resources for Mexican immigrants and their families through bilateral training, research, and health promotion activities. CMHI facilitates the development of complementary and coordinated projects involving key stakeholders in Mexico and the United States. The Initiative's first efforts have focused on Mexican states with the highest international mobility and selected California counties with high proportions of immigrant populations.

COBBH and CMHI have partnered in multiple binational activities including:

Binational Health Week

A bilateral, collaborative effort with the active participation of CDHS, the Mexican Ministry of Health, the National Institute of Social Security (IMSE), the Ministry of Foreign Affairs through the Institute for Mexicans Abroad (IME), and the Mexican Consulates.

Binational Health Week has been celebrated during the month of October since 2001. Over the past three years, the number of participating counties and collaborative agencies has increased substantially. In 2001, seven California counties participated compared to 22 in 2003. The number of participating agencies increased from 115 to 334. The estimated number of people reached directly with health information and services in California has also grown from 19,000 in 2001 to 70,500 in 2003. Binational Health Week is celebrated simultaneously in eight Mexican states. The main components of Binational Health Week are health education and promotion activities, a media campaign, and a Binational Public Policy Forum on Migrant Health.

Spanish-English Dictionary of Health-Related Terms

This project was a collaborative effort between COBBH, CMHI, and the CDHS Office of Rural Health. The dictionary includes general terms, as well as those related to traditional medicine and popular health beliefs. The dictionary is a resource for more accurate communication between health care providers and migrant/immigrant patients. Currently, 15,000 of the Spanish-English Dictionary have been distributed in the United States and Mexico.

California-Mexico Epidemiological Surveillance System

CMHI supported the completion of the first phase of a California-Mexico Epidemiological Surveillance Pilot project under the leadership of the Universitywide AIDS Research Program, in collaboration with COBBH, CDC, and SSA Epidemiology Unit, the Mexican AIDS Prevention and Treatment Center (CENSIDA), and the National Institute of Public Health (INSP-*Instituto Nacional de Salud Públic*a). The purpose of the project is to provide improved monitoring of behavioral, medical, environmental, service, and demographic trends and changes among Mexican migrants regarding HIV/AIDS and other communicable diseases. In California, the pilot project is being implemented in San Diego and Imperial Counties.